IN THE CIRCUIT COURT OF OHIO COUNTY, WEST VIRGINIA
IN RE: TOBACCO LITIGATION

Civil Action No. 00-C-6000

DEPOSITION OF: FREDERICK DUNBAR
DATE: Monday, August 28, 2000
TIME: 11:00 a.m.
LOCATION: Chadbourne & Parke, LLP
30 Rockefeller Plaza
New York, New York 10112
TAKEN BY: Counsel for the Plaintiff
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(INDEX AT REAR OF TRANSCRIPT)

STIPULATION

It is stipulated by and among Counsel that this deposition is being taken in accordance with the Federal Rules of Civil Procedure; that all objections as to Notice of this deposition are hereby waived; that all objections except as to form are reserved until the time of trial; and that the witness has reserved the right to read and sign the deposition after review by counsel.

* * * * * * * * * * * *

FREDERICK DUNBAR

being first duly sworn, testified as follows:

EXAMINATION

BY MR. GRUENLOH:

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Q. Good morning. My name is Mike Gruenloh. I'm with Ness, Motley. I represent the plaintiffs in this case.

We met before the deposition this morning, and I promised the court reporter I'll slow down, so I'll start that right now.

I haven't had the pleasure of taking your deposition before, but I know you've been deposed before. What was the last case in which you gave a deposition?

5

A. Falise versus American Tobacco.

Q. When was that, sir?

A. July -- I think that was in June or May of this year.

Q. Did you also provide testimony to the Court aside from your deposition in that case?

A. Yes, I did.

Q. When was that?

A. July 18th.

Q. Before your deposition in the Falise case, what was the case in which you gave a deposition in before that?

A. Before Falise?

Q. Yes.

A. I'm not sure, but I think it was a matter involving TWA.

Q. You're a Ph.D. Correct?

A. That's correct.

Q. You're not a medical doctor, are you?

A. I'm not.

Q. Do you consider yourself to be an expert in the field of marketing?

A. To an extent. Yes.

Q. Explain that for me. To what

6

extent?

A. In my background I have had to analyze and determine the efficacy of marketing programs. I've also have considerable experience in doing research on consumer behavior. I've published on the application of econometric techniques to consumer behavior, so to the extent that I have background and experience in that area, I would consider myself to be an expert.

Q. Do you consider fields of consumer behavior and marketing to be the same fields?

A. No. Marketing is more general in that it includes such issues as research and development, determining product attributes, trial testing, rolling out the product, determining distribution channels, such issues as that, whereas consumer research is used in -- is a tool that is used in marketing science.

Q. Do you subscribe to any advertising or marketing journals?

MR. SUFFERN: I interpose an objection on the grounds that this is beyond the scope of the testimony that we've identified Dr. Dunbar will be presenting in this case, but go ahead and answer it if you can.

7

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A. I do not.
Q. Let me ask you, do you intend to offer an opinion on marketing at the trial of this case?
A. I've not been asked to do that.
Q. Can you give me an example of a well-known marketing theory?
MR. SUFFERN: Same objection.
A. You'll have to tell me what you mean by a "well-known marketing theory." I can give you examples of theories of consumer behavior such as optimizing sample slicing. I can give you theories that are then applied to estimating consumer models, such as independence from irrelevant alternatives or looking at things such as the Sleckski (phon) equations.
Q. My question was can you give me an example of a well-known marketing theory. Did you not understand the question?
MR. SUFFERN: Objection. The question is extremely vague and it characterizes -- The words "well-known" are characterization, but again -- Moreover, it's irrelevant.
But, Doctor, if you can, go ahead.

A. You'll have to -- I did not understand the question. I think --
Q. You don't understand what a marketing theory is?
A. No. I didn't understand what you mean by a marketing theory.
Q. Can you summarize any of the theories of buyer behavior?
MR. SUFFERN: Objection. Beyond the scope of his testimony.
A. I can definitely summarize, from the standpoint of microeconomics, the theories of buyer behavior if you wish.
Q. Can you give me one?
A. One theory is modern demand theory, which is that people have -- buy more of a product when the price is lower. There are products that people buy more of when their income goes up, and then there are products that are called given goods that are products that people buy less of when their income goes up. There are products that are complements with each other, such as automobiles and gasoline, and then there are products which are substitutes for each other, such as automobiles and buses.

You can derive demand curves on the basis of optimization of utility. You can also derive demand curves from revealed preference. You can derive probability choice curves from the independence from irrelevant alternatives theory. You can also estimate probability choice functions on the basis of probit analysis.
There are theories about how individuals allocate their income among products as the -- as their income goes up. There are

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theories of how much consumption occurs versus savings in response to either permanent income or temporary income.

Consumer behavior is -- There's a lot of theories, and I happen to be an expert in those.

Q. We'll get to that in a minute.

What are the four basic elements of marketing that are known in the industry as the marketing mix?

MR. SUFFERN: Counsel, I don't want to object to every question just because I think it will prolong the deposition, but this witness has just told you that he's not been asked

10

to testify about marketing in this case. To the extent that you're asking him questions about marketing they are beyond the scope of his testimony and are, therefore, irrelevant, I object to the form of those questions. Will you agree to stipulate that I have a continuing objection to all questions regarding this witness' testimony on marketing?

MR. GRUENLOH: Absolutely. If you agree right now to stipulate that he is not, in fact, going to offer any opinions on marketing I'll leave this line of questioning.

MR. SUFFERN: The witness has already told you he's not been retained to testify about marketing in this case, and to the extent that we offered him in our case as a witness we do not expect him to offer any theories, testimony, regarding marketing. To the extent that some expert that the plaintiffs may retain may offer opinions that are within his area of expertise -- I don't want to preclude him from testifying about areas that are within his area of knowledge and expertise. I will affirmatively state that in our case we do not intend to offer this witness -- to introduce any expert testimony regarding marketing

11

through this witness.

Q. You told me a moment ago that you consider yourself to be an expert in the field of consumer perception. Is that correct?

A. Consumer behavior

Q. Is there a difference between consumer perception and consumer behavior?

A. Yes.

Q. What is the difference between those two fields?

A. Generally in analyzing consumer behavior you can go from -- you can look at consumer behavior on the basis of perceptions or you can look at consumer behavior on the basis of objective attributes. I can give you an example if you want.

Q. No. That's fine. I think I understand your answer.

You said that you consider yourself to be an expert in consumer behavior but not consumer perception?

A. No. What I'm saying is that if you are in

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the area where you have information about consumer perceptions, and then the question is how does that affect consumer behavior. I am an expert on

12

that. The issue of how perceptions are formed is more in the area of psychology, however, and I don't hold myself out to be a psychologist.

Q. Well, you would agree at least that the two areas -- that the area of consumer perception and the area of consumer behavior are two separate fields?

MR. SUFFERN: Objection. Again, counsel, same objection with regard to consumer perception or consumer behavior. We are not offering this witness as an expert in those subject matter areas. Therefore, I object to the form of these questions.

Go ahead, Doctor. You can answer it.

Q. I want to make sure I've got that correct. You're stipulating right now that you're not offering this expert in the areas of consumer behavior or consumer perception?

MR. SUFFERN: To the extent that either consumer behavior -- We're talking about semantics. To the extent that the take-up rates of claimants of potential class members of this case may involve issues such as what are people -- what do people who are potentially eligible for

13

recovery in civil litigation, how do they actually behave with regard to asserting claims, decisions involved in whether they will assert claims, this type of thing, that's clearly within his area of expertise. As to the issue of how do consumers form opinions about or make decisions about products they buy, this is not what this witness is being offered to testify about.

Is that helpful? Does that clarify your question?

MR. GRUENLOH: I think what you just said is definitely within those two fields, so I'm going to go ahead and explore it.

Q. Has any Court ever recognized you as an expert in the field of consumer perception?

MR. SUFFERN: Objection. It's beyond the scope.

A. I think in terms of testifying in court, I've not offered any testimony -- I've not even attempted to offer any testimony on that subject.

Q. So the answer to my question is no? My question is, has any Court ever recognized you as an expert in the field of consumer perception?

MR. SUFFERN: Asked and answered.

14

A. With all due respect, I think I answered your question.

Q. I think you gave me a very different answer than what my question called for.

The question again, has any Court ever recognized you in the area of consumer perception? It's a very simple question, Doctor.

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MR. SUFFERN: Counsel -- And he's answered it and told you, now that you've asked a second time, that he believes he's answered it. I suggest we move on. You asked it again. He's told you he answered it.

MR. GRUENLOH: All right. Let's keep the objections to the form as the rules call for, and let's get an answer to this question. The question still stands.

MR. SUFFERN: Objection.

A. I've not tried to offer testimony on consumer behavior. It logically follows that no Court has found me to be an expert in consumer behavior.

Q. I understand that you think it logically follows that no Court has recognized you, but I want you to tell me, has a Court, in fact, recognized you as an expert in consumer

protection?

A. I'll stand by my answer.

Q. You refuse to answer the question?

MR. SUFFERN: Objection. Counsel, he's answered the question. He's answered four times now.

A. I've answered your question.

Q. Have you ever taught in the field of consumer perception?

MR. SUFFERN: Objection. This witness is not being called upon to offer expert testimony in the field of consumer perception.

MR. GRUENLOH: Your objection is noted, counsel.

MR. SUFFERN: And, therefore, I object.

A. I guess I need you to answer a question for me.

Q. Well, I'm not here to answer questions.

A. In order to clarify.

Q. Tell me what your confusion with the question is. Do you not understand what the term "consumer perception" means? I thought we went over that.

MR. SUFFERN: I'm sorry. I don't know what the question is. Is the question, do you not understand what the term "consumer perception" means? Is that the question pending?

Q. The question pending is, have you ever taught a course in the field of consumer perception?

A. This relates back to another question, if you don't mind.

Q. If you can answer the question go ahead and answer the question. If you have difficulty with the question tell me why.

A. What I would like to know is if we are talking about uptake rates or the propensity to make a claim. Do you consider that to be consumer behavior?

Q. Do I consider that to be consumer behavior?

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A. Yes. From the standpoint of what your question means.
Q. I don't think that bears on my question. My question is a very simple one: Have you ever taught a course in consumer perception?
A. Maybe I'm not being clear. I may want to change one of my prior answers depending on what

you mean by consumer behavior.
Q. Have you ever taught a course entitled Consumer Perception?
A. Let's put it this way: I've given seminars where consumer perception was one of the subjects that was discussed and which I gave instruction to the seminar participants, but if you don't mind I would like to go back to a prior question. Do you mind?
Q. Please. It's a discovery deposition. I want to know what your opinions are, Doctor.
A. Okay. Do you mean to include under the rubric of consumer behavior the propensity to make a claim?
Q. Well, you're the expert here. Do you think that that is within that field?
A. But you're the one who's asking the question. I want to know what you mean by your question.
Q. Well, I want to know how you generally use the terms.
A. Generally I would not include propensity to make a claim as being consumer behavior, and the reason that I'm concerned about that is I have

testified on issues that might fall under the heading of perceptions in connection with propensity to make a claim, but I have not testified on the issue of perceptions when it relates to the purchase of goods and services by consumers.
Q. I think I understand what you just said, but let me ask you this: Is it your testimony today that the propensity to make a claim would fall within the broad heading of consumer perception?
A. No. I think I said the opposite, that the way that I view propensity to make a claim is that it falls under the broad heading of behavioral science, but for the most part professionals would think of consumer behavior and consumer perception to be a different area.
Q. Tell me about the seminars that you taught in which consumer perception came up.
MR. SUFFERN: I'm sorry. Again, we're -- I think it's just a matter of terminology. I think the witness just testified he doesn't view propensity to make claims --
MR. GRUENLOH: I understand that, but I'm entitled to explore this.

MR. SUFFERN: I know, counsel. Let me just state why I believe it's a misleading question. He just testified that he does not view

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Source: http://www.industrydocuments.ucsf.edu/docs/pkxd0001

propensity to claim as within the rubric of consumer perception. He also testified that he has taught seminars on the issue -- that touched on the issue of propensity to make claims. Your question then asked him, Tell me about the seminars you've taught on consumer perception, which he just told you he doesn't think fall within the rubric of propensity to make claim, and I object on that ground.

MR. GRUENLOH: I think the record will speak for itself.

A. The -- One of the seminars was related to marketing programs for transit authorities, and the question was how could transit authorities make use of modern marketing methods in order to increase their ridership. Another --

Q. Let's stop with that one. In what way did you deal with consumer perception in that seminar?

A. The -- One of the issues that comes up is what is -- There are several issues. Let me just try to parse them. One is in the area of what are

called attitudinal surveys, and in attitudinal surveys people are asked questions like what they believe or what they think they would do under a set of circumstances. One of the questions that we dealt with was the bias that occurs in using attitudinal surveys as opposed to what's called using revealed preference surveys.

Secondly, an issue that comes up is what is the perception of time spent in transit. Does walk time to a transit station have the same impact or value to a person as does waiting time at the station, and then, once again, as what is called line hall time? Why is it that people perceive one type of time to be more onerous than another type of time, and then what does that imply, because system design, should you have systems that are -- have very fast line hall time but not very much coverage, or should you have systems like buses that have a large amount of coverage but they aren't as fast as rapid transit systems?

Q. As I understand your testimony, the second part of that was a person's perception of the time it takes them to get to the train station?

A. I think I said there were three components of time.

Q. Okay. Three components of time. One is what I just described?

A. Yes.

Q. How did you determine what the consumers' perceptions were? Did you do a survey?

A. You can -- Much of what is done is on the basis of survey data.

Q. In that case did you do a survey?

A. We're talking about a seminar. Have I done transit surveys that measure time? The answer to that is yes, but that was in the context of that seminar. That seminar dealt more with

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what the existing literature showed and, in fact, it was -- It brought together a lot of the economics, travel, and marketing literature related to the subject.

Q. Where was that seminar taught?

A. In Boston.

Q. Was it taught at a university?

A. It was jointly sponsored with the Harvard Business School, but I think we gave it at the Lenox Hotel.

Q. Were there other presenters aside

from yourself?

A. Yes.

Q. How many?

A. I'm not sure. I would say on the order of ten.

Q. How long was the seminar?

A. I think it was two days.

Q. Did you distribute any materials as part of your presentation?

A. I think we did. Yes.

Q. What materials did you distribute?

A. There was an article that I co-authored with Harvard Business School Professor of Marketing -- His name is Christopher Loveluck (phon).

Q. Anything else?

A. Besides that one article?

Q. Yes.

A. I think there may have been conference proceedings that came out afterwards.

Q. What was the title of that article?

MR. SUFFERN: Objection. It's irrelevant.

A. I don't quite recall. Something like

Marketing Public Transit.

Q. Was that a peer-reviewed article?

A. I'm not sure, actually, to tell you the truth. It appeared in the proceedings afterward, and I don't remember if the articles for the proceedings were peer-reviewed or not.

Q. Tell me what other seminars you taught in which you believe relate to consumer perception.

MR. SUFFERN: Objection. Irrelevant. Beyond the scope of his testimony.

A. The other matter was not a seminar per se --

MR. GRUENLOH: Hold on one second.

(There is a discussion off the record.)

Q. Continue.

A. There was the presentation of a paper to -- I believe it was the American Marketing Association annual meeting, something like that.

Q. Any other seminars?

A. That's all I can recall right now.

Q. Do you have any formal education specifically in the field of consumer perception?

A. Not more than that is taught in economics

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courses.
Q. Have you ever published in the area of the risk perception of smokers?
MR. SUFFERN: I'm sorry. I didn't hear. Risk perception?
MR. GRUENLOH: Risk perception of smokers.
A. I have not.
Q. Do you know who Kip Viscusi is?
A. I do.
Q. Who is he?
A. An economist who's a professor in the law school of Harvard University.
Q. What's his field of expertise?
A. Law and economics.
Q. Do you subscribe to any journals or periodicals in the field of consumer perception?
A. Only to the extent the issue arises in the economics literature or the statistics literature.
Q. When was the first peer-reviewed articles published on the consumer perception of the health risks of smoking?
MR. SUFFERN: Objection. It's beyond the scope of his testimony.

A. I don't know the answer to that question.
Q. Have you ever met with Kip Viscusi?
A. Not in person. No. I have talked to him on the telephone.
Q. When did you first talk with him on the telephone?
A. Roughly 15 months ago.
Q. And what was the purpose of the telephone call?
A. I wanted to talk to him about some issues that had arisen in a Superfund case in the first instance, and then in the second instance I had a telephone call with him about his course on scientific evidence because I'm developing a similar course for Columbia University Law School.
Q. Have you ever discussed anything relating to tobacco litigation with Kip Viscusi?
A. No.
Q. Have you ever discussed anything relating to consumers' perceptions of the health risks of smoking, with Kip Viscusi?
A. No.
MR. SUFFERN: Did somebody just join?

MR. HOLTZAPFEL: Rich Holtzapfel. I'm local counsel for Adam Miller.
MR. MILLER: And I just joined also. This is Adam Miller from Thompson Coburn and in St. Louis for Lorillard Tobacco Company.
Q. Have you done any specific analysis on the West Virginia population?
A. Not any more than what I've read in the documents that have been filed in this case.
Q. I'm not sure I understand your

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answer. You did an analysis on the documents which were filed in this case?
A. No. I've done -- What -- Let me explain what I've done. It may help you out a little.
I've gone over the three days of deposition of Dr. Burns, and I've reviewed the exhibits that were introduced, his first two days. Within those documents are a series of data and calculations that he made in order to come up with his estimate of the cost of a proposed monitoring program for West Virginia. I've tried to replicate what he did, and to that extent I've done an analysis of what he has on the population of West Virginia.
Q. We'll get to that a little bit

later. Aside from that, have you done any analysis to determine the demographic mix of West Virginia?
A. No.
Q. Do you know what the population of West Virginia is?
A. No.
Q. Do you know what the smoking prevalence in West Virginia is?
A. My understanding is it's -- on the post eighteen-year-old basis it's around 26 percent, 24 percent. In that range.
Q. What did you get that understanding from?
A. The documents in this case.
Q. Are you referring specifically to Dr. Burns' reliance materials?
A. Yes.
Q. Did you seek to do --
MR. GRUENLOH: Strike that.
Q. Did you check on your own to confirm the smoking prevalence of West Virginia, or did you rely on the numbers Dr. Burns cited?
MR. SUFFERN: Objection. Compound question.

Answer it if you can, Doctor.
A. Whether I rely on that or not remains to be seen, but at this point I have not checked, with secondary sources, any of Dr. Burns' calculations.
Q. Do you remember what his source was for the smoking prevalence of West Virginians?
A. He relies on CPS and CPS 1 for most of his smoking-related data.
Q. Are you familiar with CPS and CPS 1?
A. I'm not familiar with CPS 1. I have used CPS in prior cases, though not recently.
Q. And just so we're clear, we're talking about the current population survey, not the cancer prevention study. Correct?
A. We are.
Q. Do you consider CPS and CPS 1 to be reliable data sources?
A. I think CPS is a reliable data source. I haven't formed an opinion about CPS 1.

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Q. Do you know what the youth smoking rates are in West Virginia?
A. No.
Q. Do you know what the quit rates

29

are in West Virginia?
A. No. I would like to find that out, though.
Q. Why do you want to know that?
A. In order to make an independent estimate of the cost of the monitoring program.
Q. But you haven't done that yet?
A. That's correct.
Q. Why not?
A. There's a lot of uncertainty -- Well, I guess the question goes to a bigger issue, which we can discuss if you want, and that is where I am in the progress of coming up with an estimate of the costs of the medical monitoring program.
Q. Let's talk about that later. Right now all I want to know is why you haven't done an analysis of the quit rates if you want to know it?
A. Because we have yet to do an independent analysis of the cost of the West Virginia medical monitoring program.
Q. When you say "we," what do you mean by "we"? Who's "we"?
A. "We" is the people -- myself and the people with whom I work at National Economic

30

Research Associates.
Q. How many people at National Economic Research Associates are working on this case with you?
A. Off and on it's three people.
Q. Can you tell me who they are?
A. Yes. One is Lucy Allen. Two is Chu Okongwu, and three is Celeste Lum.
Q. Is Lucy Allen a Ph.D.?
A. No.
Q. Is Chu Okongwu a Ph.D.?
A. Yes.
Q. What is his Ph.D. in?
A. He has a Ph.D. in economics from the University of California at Berkeley.
Q. How about Celeste Lum?
A. No. She's not a Ph.D.
Q. Have you checked to see what the intensity is of smoking for current smokers in West Virginia?
MR. SUFFERN: Object to the form of the question.
A. Do you mean the average intensity?
Q. Average intensity.
A. No.

31

Q. Do you intend to?
A. I would have to say probably. Yes.
Q. Tell me how you can do that. Can you do that, first of all?
A. That's one of the things that we will try to determine.

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Q. As you sit here today do you know if it's possible to determine the average intensity of smokers in West Virginia?
MR. SUFFERN: Object to the form of the question.
Q. Let me rephrase my question to make sure I've got it right.
As we sit here today do you know if it's possible to determine the average smoking intensity of West Virginia smokers?
MR. SUFFERN: Same objection.
A. Not with absolute certainty.
Q. But that's something that you would like to know for the purpose of the analysis that you intend to do?
A. Not necessarily. What I'm saying is it's one of those things we would probably look into.
Q. Why?
A. Because it might relate to the issue of

backward extrapolation that Dr. Burns talked about.
Q. Do you know whether it relates to it or not as we sit here today?
A. Again, not with absolute certainty.
Q. Do you have any opinion as to whether it relates to that back extrapolation?
A. Not right now.
Q. What about the duration of smoking for current smokers? Have you sought to determine what that is for West Virginians?
A. No.
Q. Do you intend to?
A. I would give you the same set of answers as I would with intensity, with the additional comment that if the class is defined in terms of pack years, then in order to estimate class size you might have to estimate the duration and intensities that go into calculating pack years.
Q. Just so I'm clear on this, is it your opinion today that that can be done?
MR. SUFFERN: Object to the form.
A. The -- I think it's possible to give a reasonable estimate of class size. It's -- I am not sure that in coming to that estimate that it's

either possible or even best to have data on average duration of West Virginian smokers.
Q. Is it possible to do an analysis which would --
A. Excuse me. I think it will be possible to do an estimate of class size once the class is defined, which, as I understand it, is not quite where we are right now.
Q. Is it possible to do an analysis which would categorize the smoking durations for all West Virginia smokers, for instance, into five pack year categories, ten pack year, 15 pack year categories and so on?
MR. SUFFERN: Object to the form.
A. You mean do the data exist to do that?
Q. Yes.
A. I'm not certain of that.

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Q. Are you going to check?
A. Yes.
Q. Why?
A. Once the class is defined, if it's defined in terms of pack years or duration or intensity, then in order to get an estimate of class size it would be useful to have that data.
Q. Why would it be useful?

A. If the class is defined in terms of pack years, pack years itself is a function of duration and intensity, so in order to determine those people whose combination of duration and intensity give them the pack years that is relevant for the cutoff, it would be useful to have those numbers.
Q. Have you done any analysis to determine the average duration of smoking for former West Virginian smokers?
A. No.
Q. Do you intend to?
A. I don't want to preclude doing it, but that's not something that I've thought about doing.
Q. Do the data exist to do such an analysis?
A. I'm not certain about that.
Q. Have you reviewed the medical records or any other records for the class members in this case, the named class members?
A. No.
Q. Do you intend to?
A. I don't believe so.
Q. Is there any characteristic of which you are aware of the West Virginia

population which would lead you to believe that West Virginians are different than the US population on the whole?
MR. SUFFERN: Objection. It's a hopelessly overbroad question.
Answer it if you can, Doctor.
Q. Are there any that you're aware of, Doctor?
A. Well, the question has a couple of different levels, and because of that it's -- it would be very hard to answer. I can explain if you want.
Q. Let me try to narrow it down for you then.
Is there any characteristics of the West Virginia population of which you're aware which would lead you to believe that they react differently to marketing than the rest of the United States population on the whole?
MR. SUFFERN: Object to the form.
A. None that I know of.
Q. Is there any characteristic of the West Virginia population of which you're aware of which would lead you to believe that West Virginians' lungs react differently to cigarette

smoke than the rest of the United States?
A. I have to preface this by saying I'm not a

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medical doctor, but I am quite aware of the prevalence of black lung, brown lung disease in West Virginia. Other than that I would not have -- Well, let's just say that there are other background risks associated with lung cancer, but I'm not -- I don't have it at my fingertips, those ambient conditions in West Virginia.

Q. You're talking about other risk factors that may lead to lung cancer. Is that what you're talking about?

A. I was thinking more of background risk factors not -- I wasn't talking about genetic or individual predisposition. What I'm talking about is more like things like air pollution.

Q. Well, tell me which factors are present in West Virginia that you're aware of that would lead Virginians to -- West Virginians' lungs to react differently to cigarette smoke.

MR. SUFFERN: Object to the form. Assumes facts not in evidence. Beyond the scope of his testimony.

A. I think I mentioned that I'm really not equipped to give you numbers like SO2 or something

in West Virginia which would make West Virginia more susceptible, the same, or less susceptible than the rest of the country.

Q. My question was, list them if you know them. Is your answer to me that you don't know any as you sit here today?

A. Do I -- Do I know what factors contribute to background risk, or do I know how West Virginia is different in those factors from the rest of the country? It's two different questions.

Q. The latter.

A. Again, other than the issues related to coal mining, no.

Q. It's your opinion that the fact that West Virginia has some coal miners that their lungs react differently to the cigarette smoke than the rest of the US population on the whole?

MR. SUFFERN: Objection.

A. Not quite. It's my testimony that I'm aware that the prevalence of that disease was greater -- possibly still is greater in West Virginia than in the United States as a whole so that that would be a factor that I would investigate in order to answer that question.

Q. The prevalence of "that disease"

meaning what disease?

A. Black lung and brown lung.

Q. Are you aware of where West Virginia places as far as relative to the rest of the states in smoking prevalence?

A. I think it's -- From the materials that I've read, it's historically been in the top five.

Q. In your opinion does smoking cause lung cancer and other serious diseases?

MR. SUFFERN: Objection. It's beyond the scope of his testimony.

Answer it if you can, Doctor.

A. Yes. Well, let me put it this way: I

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think that a population that smokes will have more lung cancer than a population that doesn't smoke, but in any individual I couldn't give you an answer to that question because I'm not a doctor.

Q. Do you know what the tobacco industry's position is on that subject?

MR. SUFFERN: I object to the form of that question.

Q. Do you know what the tobacco industry's position is on the subject of whether smoking causes lung cancer and other serious diseases?

39

MR. SUFFERN: Same objection. Object to the form.

A. Only secondhand. I don't have firsthand knowledge of the tobacco industry's position.

Q. What secondhand knowledge do you have?

MR. SUFFERN: Objection. Beyond the scope of his testimony. Object to the form. Calls for speculation.

Go ahead and answer it if you can, Doctor.

A. I've been told that the tobacco companies have said this year that smoking causes lung cancer.

Q. Do you know what their position was prior to this year on that subject?

MR. SUFFERN: Objection. Object to the form.

A. Well, I've read documents, not in this case but in other cases, where in prior years the position was that statistical association did not imply causation.

Q. And they just changed that position this year. Correct?

MR. SUFFERN: Object to the form

40

of the question. It's incapable of being answered, lacks foundation. We don't know who "they" is in the question, but answer it if you can, Doctor.

Q. Is that your understanding?

A. I don't have firsthand knowledge of that.

Q. Tell me which documents you were referring to that you reviewed.

A. In this case?

Q. No. You referenced some documents that you had reviewed which I had indicated to you that the tobacco industry had taken a position other than that which we talked about a second ago.

A. Oh. The -- There are documents that have been produced on discovery in another matter. It's -- Let me pause just a second to think about what I can tell you about the other matter.

I can either tell you the name of the litigation -- Oh, no. I can't do that. I can give you some general description of the litigation, but I probably can't tell you the name of it. Is that okay?

Q. You can't tell me the name of the

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Source: http://www.industrydocuments.ucsf.edu/docs/pkxd0001

case which you're working on?

41

A. Yes, because it's confidential. Oh, yes. Wait a minute. Okay. I can tell you the -- In general I can tell you the name of the litigation or what I'm doing for it but not both, because of confidentiality restrictions. Do you understand what I'm saying?

Q. Why don't you tell me the name of the litigation.

A. It's basically -- I think it's Thomas versus American Tobacco. Something like that.

Q. And you reviewed some internal tobacco industry documents in that case?

A. What I reviewed were documents that were internal to Owens Corning Fiberboard that collected over time that related to the industry's position. I'm not sure they were really internal tobacco company documents. I think they more fell in the category of public documents that OCF had acquired.

Q. Do you recall whether there were any internal tobacco industry memorandum within them?

MR. SUFFERN: Object to the form of the question.

A. I don't recall any that were internal.

42

Q. Have you ever reviewed any internal tobacco industry documents?

MR. SUFFERN: Object to the form of the question.

Q. For any reason?

A. I've read pleadings in some cases against the tobacco companies and those pleadings have excerpts from the documents, but that's about the full extent of my knowledge.

Q. Have you ever requested any internal tobacco industry documents from any of the lawyers working on this case?

MR. SUFFERN: Object to the form.

A. On this case? No.

Q. Have you done any review of any tobacco documents in connection with the Falise case?

A. No.

Q. Did you ask the lawyers in the Falise case to let you look at any tobacco industry documents?

A. No. I'm not working on liability.

Q. You consider yourself to be working on the damage portion of the case?

A. Correct.

43

Q. And, therefore, you don't need to see any of the documents which would relate to the liability portion of the case?

A. I'm assuming liability, so I don't have to look at those documents.

Q. On the Falise case you're assuming the defendants did everything that the plaintiffs allege they did for the purpose of your analysis. Is that correct?

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MR. SUFFERN: Objection.
A. Correct.
Q. Is it important for you to know whether the defendants for whom you're testifying deliberately misled and lied to the public?
MR. SUFFERN: Object to the form of the question.
A. Could you be specific with respect to which case or litigation you're talking about?
Q. Let's talk about this case.
MR. SUFFERN: I object to the form of the question as it relates to this case.
Go ahead, Doctor.
A. I -- I think my work in this case is also going to assume liability.
Q. So in this case for the purpose of

your analysis you're going to assume that all of the things that the plaintiffs allege which the defendants did are, in fact, true. Is that correct?
MR. SUFFERN: Object to the form of the question.
A. I haven't talked about this to my client, but it would -- I would think that we're going to assume -- we, NERA, not necessarily my client -- are going to assume liability. If, in fact, there are alternative assumptions about the liability, then I can estimate the implications of those assumptions, if any, on the estimates of total cost. But I don't view it within the scope of my assignment to have opinions about liability.
Q. Okay. I understand you don't view it as part of the scope of your assignment, but as an expert testifying on behalf of a company, wouldn't you like to know whether what the plaintiffs are alleging about them is, in fact, true?
MR. SUFFERN: Object to the form of the question. Object on relevancy grounds, but go ahead and answer it if you can, Doctor.
A. The question is a couple of different

dimensions.
Q. If you can answer it.
A. One is that in terms of working on damages it is generally not necessary to know about the -- Well, let me strike the word "know."
In terms of estimating damages, the key issue for the analyst is what the finder of fact is going to determine on liability. That's out of my hands, in other words. Whether I have an opinion different from the jury or the judge doesn't make a whole lot of difference if I'm trying to estimate damages, so that's one dimension in which -- in which case a lot of times it's kind of a waste of the client's money to get into liability except to the extent that the alleged conduct has some relationship to the damage estimate, and in those circumstances I would want to know about some linkage between the conduct and the -- and damages. I'm sorry. This is a long answer. I'm almost finished.

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Secondly, I always have intellectual curiosity about these matters, but sometimes I just don't have enough time to, you know, take in all of the aspects of the case I'm working on.

46

Q. First of all, let me ask you, in this case do you believe that there's any link between the conduct and the damages?
MR. SUFFERN: Object to the form of the question.
A. I think it's an empirical question and you have to break it down by types of conduct. I have no opinion on that right now.
Q. Maybe I got it wrong, but I thought you testified just a second ago that you didn't need to know anything about the liability side of the case unless there was a link between the conduct and the damages, in which case you may have to, so I want to know in this case, is there such a link?
A. I think I see the source of your confusion. In my mind there's a difference between what I may believe about conduct and what the jury may believe, and if the jury comes up with a finding that the conduct of the tobacco companies was material, then I have to make that assumption in coming up with my estimate of damages or the effect on remedy. That -- Whether I believe that as a scientist is a different issue.

47

Q. So at this point you basically separated yourself from the liability side of the case but for the fact that you've assumed liability. Correct?
A. Yes.
Q. Do you intend to do any analysis of any tobacco industry documents prior to offering an opinion at trial in this case?
MR. SUFFERN: Object to the form.
A. That had not been part of my plan. I don't know if my client has any other designs.
Q. So you don't intend to?
A. Right now as I sit here I don't intend to.
MR. SUFFERN: Counsel, could you let me know when a good time to take a short break is?
MR. GRUENLOH: Yes. Now is good.
MR. SUFFERN: Thanks.
(Recess.)
Q. What percentage of West Virginians regularly visit a physician for checkups?
A. My understanding is that we don't know the answer to that.
Q. Do you intend to do any analysis to determine the answer to that?

48

A. I hadn't thought of doing that.
Q. Do you know that that data is available?
A. I think -- I'm not sure.
Q. You haven't checked?

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A. I have not made an independent check. No.
Q. Would that data be important to any analysis which you intend to offer at trial?
A. Right now I don't see how.
Q. Have you done any analysis to determine what effect, if any, regular physician checkups has upon smoking cessation for West Virginia smokers?
A. No.
Q. Do you intend to do that?
A. I hadn't intended to until you just asked this question. I think that's something I'll want to think about.
Q. Tell me, why would it be important to your analysis in this case?
A. In order to determine the cost of the program we need to know the number of people who will make a claim over time. Making claim over time may entail visiting physicians. That then might affect the quit rate. To determine the

number of people who take advantage of the program over time we need to make an estimate of the quit rate.
Q. I'm confused how the quit rates affect how many people will take advantage of the program as it is proposed?
A. Well, that may be in an uncertainty with regard to the program and the class definition. My understanding is that the program is available for current smokers. Therefore, smokers who quit would not be available to take advantage of the proposed plan.
Q. It's your understanding as you sit here today that the program as it's currently proposed would not be available for former smokers?
A. It's my understanding that it is not available for former smokers. That's correct.
Q. Where did you get that understanding?
A. From Dr. Burns' deposition.
Q. Which deposition? Do you remember?
A. It's probably the August dep.
Q. The most recent one on August 9th?

A. Yes.
Q. Just to make sure I've got this right, I want to understand what your opinion is. If a smoker --
MR. GRUENLOH: Strike that.
Q. What's your understanding of the class definition right now?
MR. SUFFERN: Object to the form.
Go ahead, Doctor.
A. The class is defined as current smokers, age 40 and over, who have smoked five or more pack years and five or more cigarettes per day and who are not covered by at least West Virginia insurance. It also excludes people who are symptomatic of one of the diseases caused by smoking. There are uncertainties as to whether

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the class will include people who are symptomatic of one disease but asymptomatic of other diseases for which there could be testing.

My understanding from reading the deposition is there may also be some other uncertainties in definition related to insurance coverage above and beyond West Virginia state insurance. It's unknown how long the program will last, so with regard to futures, to my knowledge

the program is still undefined -- or the class is undefined.

I may have omitted one or two things, but I think that's primarily it.

Q. If we've got a West Virginian smoker and he's 35 years old and he fits all the criterion you just gave me, fits the class definition and he would not be excluded by any of the exclusions you just gave me, on his 40th birthday he quit smoking. Are you with me so far?

A. Yes.

Q. Would that person be eligible for the monitoring program as it stands right now?

MR. SUFFERN: Object to the form.

A. I think that's an uncertainty as a -- as I read the testimony.

Q. Tell me why you think it's an uncertainty.

A. Because the testing is for current smokers.

Q. Do you smoke?

MR. SUFFERN: Objection. Irrelevant.

A. No.

Q. Did you ever?

A. Yes.

Q. When?

MR. SUFFERN: Objection.

A. I think I started around the age of 19. I smoked cigarettes for a while, and then I switched to a pipe. I gave up the pipe around 1985, I believe.

Q. How many years did you smoke?

MR. SUFFERN: Same objection. Irrelevant.

A. About 22 years combined.

Q. I'm sorry. Let me rephrase my question. How many years did you smoke cigarettes?

MR. SUFFERN: Same objection.

A. About two years.

Q. Two years cigarettes?

A. Yes.

Q. From the time you were 19 until the time that you were 21?

A. That's about right.

Q. And when you were 21 you switched over to a pipe?

A. Yes.

Q. While you were smoking cigarettes

did you ever have a physician advise you to quit

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smoking?
MR. SUFFERN: Objection.
Dr. Dunbar, do you feel comfortable answering questions about your personal life that have absolutely nothing to do with the deposition? If you don't I can -- handle the question as you see it. It's absolutely inappropriate and improper.
MR. GRUENLOH: If you're prepared to advise the witness not to answer that's one thing, but otherwise just objecting to the form would be fine.
MR. SUFFERN: Counsel --
MR. GRUENLOH: Are you prepared to advise him not to answer the question?
MR. SUFFERN: I'm going to make my objections. If you're prepared to tell me how I ought to behave in this deposition you go ahead and do that. I'm not going to do that to you. I'm just going to say that this is -- Where are we going with this? It's silly.
Go ahead, Dr. Dunbar. Did a doctor ever tell you to quit smoking. If you want to answer that question go ahead. If you don't,

I'll take my chances with the Court.
A. No.
Q. Do you have kids?
MR. SUFFERN: Objection.
A. Yes.
Q. Do they smoke?
MR. SUFFERN: Objection.
A. No.
Q. Have you ever advised them not to smoke?
MR. SUFFERN: Objection.
A. I don't think so.
Q. Have you ever discussed with them the dangers of smoking?
MR. SUFFERN: Counsel, you're asking -- You really believe that his -- apparently, his advice as a parent to his children is relevant to his testimony in this case?
MR. GRUENLOH: Your objection is noted.
MR. SUFFERN: And you feel just because we've identified him as an expert witness you're at liberty to question him about intimate aspects of his relationships with his children?
MR. GRUENLOH: Your objection is

noted.
MR. SUFFERN: That wasn't an objection. It was a statement.
A. I've talked with my children quite a bit. The issue of smoking has probably been a subject on which we've talked. Did that include a warning about the dangers? I can't recall.
Q. Let me ask you this, and I'll leave the subject: As a parent wouldn't you want your children to be able to make an informed decision on something that would potentially affect their health?

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MR. SUFFERN: Objection.
A. Sure. With regard to my children, I'm certain that they did.
(Whereupon, Exhibit 1 is marked for identification by the reporter.)
Q. Doctor, the court reporter has handed you what's been marked as Exhibit Number 1 to the deposition. That's the notice of this deposition. Have you seen that?
A. No.
Q. I want you to turn to the back page of that for me, please.
Do you see the page entitled

Schedule of Documents? It's the very back page.
A. Yes.
Q. Have you ever seen that document before?
A. No.
Q. Let's take these one at a time.
Item Number 1 under Schedule of Documents request first an updated CV.
MR. GRUENLOH: Let's mark this as Exhibit Number 2.
(Whereupon, Exhibit 2 is marked for identification by the reporter.)
Q. The court reporter has handed you what's been marked as Exhibit Number 2 to the deposition. Is that the most recent version of your CV?
A. Let me take a quick look at it if I could.
Q. Please do.
A. There's a page missing from this.
Q. Which page is it that's missing?
A. Five.
MR. GRUENLOH: Is your Page 5 missing?
MR. SUFFERN: Yes. I'll have a look at the one we sent to you. If it's missing

Page 5 we'll send you an updated page.
Q. Aside from the fact that Exhibit Number 2 is missing Page 5, is it otherwise a correct copy of your CV?
A. Well, it's not the most recent one. The -- This is a February, 2000, printout. You can see that on the last page. So some of the testimony that we talked about earlier, for example in Falise, is not -- would not even be on Page 5, which is where it would otherwise appear. Also, the item at the top of Page 3 that's in the Stanford Journal of Law, Business, and Finance, it says "forthcoming." That has actually come out now.
MR. GRUENLOH: I have another copy here.
(Whereupon, Exhibit 3 is marked for identification by the reporter.)
Q. I may have mixed them up. I thought Exhibit 2 had been the one provided by the defendants in this case, but take a look at that one and tell me if Exhibit Number 3 is your most recent CV?

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A. In fact, I don't think I've ever seen this in this format.

58

This is more recent. It looks like it came out the First of July, but I've never seen this before.

Q. Doctor, I had some questions for you on your CV. I think we may have to take them up later at such time as I see an updated version of your CV. Tell me when is the most recent version of your CV. What would that be dated? When is the last time you ran one off?

A. I'm not sure. It might have been even before I testified in the hearing in Falise in July, so I'm not sure that another one has been run off since then, but it would be easy to make that adjustment, run off another one.

Q. Is it fair to say that the CV which is marked as Exhibit 3 is more up to date than the CV which is marked as Exhibit 2 since the date is later?

A. Yes. It's more up to date, but it's -- It excludes some material that I might otherwise have to put on a CV that I was attaching it to a Rule 26 (b) report.

Q. I'm trying to determine which CV we should work from, and I hear you telling me Exhibit Number 2 would be better?

59

A. Except that you're missing Page 5.

Q. Doctor, can you do me a favor and get the most recent copy of your CV printed out and give it to the defense lawyers here so they can provide me a copy of that?

A. Sure.

Q. Tell me, since Exhibit Number 2 was printed out -- And, again, that's dated February of 2000. -- are there any new publications that you have authored?

A. None that I can recall.

Q. Are there any new expert reports which you have authored?

A. Since Exhibit 2 came out?

Q. Since Exhibit 2 came out.

A. Yes, but expert reports that do not result in deposition or testimony are not included on Exhibit 2.

Q. Tell me anyway which expert reports you've authored since February of 2000.

A. I think the expert report in Falise came out after February, but I'm not sure, actually, of the date.

Q. Anything else?

A. Yes. Two expert reports came out in the

60

same litigation. It's captioned like In Re: Reliance Acceptance Corporation.

Q. Anything else? I'm sorry. You said you had two reports on that one?

A. That's correct. That's all I can remember.

Q. What was the issue which you dealt with in the first report that you did in the case,

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In Re: Reliance Acceptance Corporation?
MR. SUFFERN: Objection. Relevancy.
A. That related to allegations involving fraudulent conveyance.
Q. Fraudulent conveyance of what?
A. There's not a one-sentence answer to that. Let me start from the beginning, if I could.
There was a bank in 1996 that had a commercial banking part of it, and then it had a part of it that lended money to some prime auto lending market. The board of directors included two separate groups; one group related to the Cole family and another group related to the Taylor family, and they decided that they wanted to break the bank in two and that the Coles would end up with their ownership interest in the finance

61

company whereas the Taylors would end up with the commercial bank. That split-off occurred in early 1997, and subsequent to that, about a year later the finance company sought protection under bankruptcy. The trustee then sued the Taylor family claiming that the split-off of the commercial bank was a fraudulent conveyance.
Q. Your second report dealt with the same issue?
A. No. The second report deals with shareholder class action that is directed to the officers and directors of both the finance company and the commercial bank.
Q. Let's take your first report in that case.
If you had to characterize that report as a report which dealt with the liability side of the case or the damages side of the case which would it be?
MR. SUFFERN: Objection to relevancy.
A. Liability.
Q. What about the second report?
MR. SUFFERN: Same objection.
A. Damages.

62

Q. And the second report on damages, did you provide a number?
MR. SUFFERN: Objection.
A. More than one, but they were numbers. Yes.
Q. Did you testify on behalf of the defendants or the plaintiffs in that case?
A. I haven't testified.
Q. Did you offer your report on behalf of the plaintiffs or the defendants in that case?
A. It was the Taylor group defendants.
Q. Have you given a deposition in that case?
A. No.
Q. Let me ask you, on your updated CV that you're going to give defense counsel so they can provide it to me, do you have a list of all of the cases in which you've authored a report or

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given a deposition or provided trial testimony?
A. No. Just -- It will have just testimony on it as required by Rule 26 (b).
Q. Just testimony, you said?
A. Correct. Deposition.
Q. Deposition and --

A. Deposition and court.
Q. That will, in fact, be on your updated CV?
A. No. Cole/Taylor, the case regarding Reliance will not be on the CV because that's just been an expert report.
Q. I'm sorry. My question was, there will be a list on your updated CV of all of the cases in which you've given testimony or deposition.
A. Yes. Over the past four years.
Q. Up to today.
A. Up to today.
Q. Let's look at Request Number 2, which requests your file in the case including all correspondence, notes, draft reports, and other materials which may be relevant to your opinions in this case. Do you see that, sir?
A. Yes, I do.
Q. Again, you've never seen that document before, have you?
A. Correct.
Q. Have you brought with you to the deposition anything which would be responsive to Request Number 2?

A. Yes.
Q. Let me see what you've got with you.
You've handed me a folder of materials, and we'll go through this one by one so we can identify what this is.
First folder at the top reads Revised Report, Burns, and it appears as if it, in fact, is the report of Dr. David Burns. Correct?
A. I can't see it.
Yes.
(Whereupon, Exhibit 4 is marked for identification by the reporter.)
Q. Incidentally, Doctor, how would you characterize this group of materials? Is this your file on the case?
A. That's my total file on the case.
Q. The next folder contains two deposition transcripts and has a title on it that says, Burns dep., April 12th and 13th, and appears to be the transcripts of Dr. Burns' depositions taken on April 12th and 13 in this case. Is that correct?
A. Yes.
(Whereupon, Exhibit 5 is marked

for identification by the reporter.)
Q. The third folder, Defendant's Exhibits 1 and 2, and it appears as if it's a couple of exhibits that were used in Dr. Burns'

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deposition?
A. The April deposition.
(Whereupon, Exhibit 6 is marked for identification by the reporter.)
(Recess.)
MR. GRUENLOH: I think we're on seven.
Q. Inside of this folder is an exhibit which was marked as an exhibit to Dr. Burns' deposition -- April 12th deposition, entitled, The American Cancer Society Cancer Prevention Study I: 12-Year Followup of 1 Million Men and Women. Correct?
A. Yes.
(Whereupon, Exhibit 7 is marked for identification by the reporter.)
Q. Defendant's Exhibits 4 through 8 appears as if it's Exhibit 4 through 8 of Dr. Burns' April 12th deposition. Correct?
A. Correct.
(Whereupon, Exhibit 8 is marked

for identification by the reporter.)
Q. The next folder reads Plaintiffs' Exhibits 1 through 4, and it appears as if these are the plaintiffs' exhibits to Dr. Burns' April 13th deposition. Correct?
A. Yes.
(Whereupon, Exhibit 9 is marked for identification by the reporter.)
Q. This appears to be a transcript of the August 9th deposition of Dr. Burns. Is that correct?
A. Yes.
(Whereupon, Exhibit 10 is marked for identification by the reporter.)
Q. The next folder has in it "Plaintiffs' brief in support of motion for class certification and defendants' memorandum in opposition to plaintiffs' motion for class certification." Correct?
A. Yes.
(Whereupon, Exhibit 11 is marked for identification by the reporter.)
Q. Complaint and answer appears to have three documents in it; one is a letter from Gabrielle Hils. The second document is the third

amended complaint, and the third document is the answer and jury demand of Defendant Brown & Williamson Tobacco Corporation to plaintiffs' third amended complaint. Correct?
A. Yes.
(Whereupon, Exhibit 12 is marked for identification by the reporter.)
Q. Supplemental report for Dr. Burns. There is an August 16th cover letter from Mr. Suffern and what appears to be a supplement to the report of Dr. David Burns in that file. Correct?
A. Yes.
(Whereupon, Exhibit 13 is marked for identification by the reporter.)

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Source: http://www.tobaccoindustrydocuments.ucsf.edu/docs/pkxd0001

Q. Expert witness statement, and appears to be a copy of your disclosure in this case, and attached to it is a facsimile transmittal from Mr. Suffern dated August 15th. Is that correct?
A. Yes.
(Whereupon, Exhibit 14 is marked for identification by the reporter.)
Q. There's some loose paper here. I'll ask you to identify the first document.

A. This is some legal research that I understand had been done at the Dinsmore firm.
Q. Legal research for what purpose?
A. To try to find other litigations which may have had something like medical monitoring programs associated with it.
Q. Did you request that?
A. I think what happened was I was told they were doing it. I did not request that they actually do the research. Once I found out that they had a list I requested to see a copy of it.
MR. GRUENLOH: Let's mark that as Number 15.
(Whereupon, Exhibit 15 is marked for identification by the reporter.)
Q. I'm going to hand this back to you and ask you a couple questions.
What's the date on the facsimile transmittal letter?
A. August 23rd.
Q. That's when you received that list of cases?
A. Yes.
Q. Have you reviewed that list of cases?

A. No.
Q. Did you receive the cases themselves that are listed in Exhibit Number 15?
A. No.
Q. Have you requested that you receive the cases that are listed in Exhibit Number 15?
A. I think the process is going to be -- Celeste Lum is going to find the cases.
Q. So you will get the cases listed on that exhibit?
A. We'll get what we can.
Q. For what purpose?
A. The issue that this list may go to is looking at propensity to claim.
Q. Propensity to make a claim?
A. Yes.
Q. How does that issue relate to those cases?
A. We don't know yet. It might not. What we're looking at is a population of cases where there may have been a medical monitoring component. We will then try to determine whether there is data that -- from those programs that is useful for answering questions about the

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propensity to make a claim in the West Virginia case.
Q. Do you know what is the criteria -- Do you know what criteria were used in that search by the defense lawyers?
A. No.
Q. You didn't ask them?
A. I didn't ask them because we're going to make our own search anyway.
Q. So you won't rely upon that search? You'll do a search of your own?
A. Yes.
Q. When do you intend to do that search?
A. I think that's ongoing.
Q. Do you know if that's a complete list of all the cases in which medical monitoring was an issue?
A. I do not know the answer to that.
Q. This is the last document in your file. Can you identify that for me, please?
A. These are the notes I've been taking. The way I take notes is to type parts of what I'm reading into the computer and then if I use that information in my report I cut and paste it into

the report. If I don't find a use for it I would probably delete the file later on, so these are -- This is a copy of my notes to date. At the front of it is a table of contents that just helps me find quickly where in this document I can get to that issue and also provides in one spot a summary of where I think issues have been dealt with in the record or in my reading.
Q. Will those notes eventually be used to form a formal report in this case?
A. I don't know what the West Virginia rules are, so I can't tell you. In a typical federal case they would.
Q. Do you intend to do a report which is more extensive than the one-and-a-half page disclosure which you provided in this case?
A. Again, I'm just not conversant with the West Virginia rules, so if I'm asked to I will, but I haven't talked to the client about that.
Q. You've had no discussions about that with any of the lawyers?
A. Correct.
(Whereupon, Exhibit 16 is marked for identification by the reporter.)
Q. I want to make sure I understand

what Exhibit Number 16 is. These are notes that you've compiled based upon your review of the materials in this case?
A. Yes.
Q. And you don't intend in any way for these notes to be your report in this case?
A. Correct.
Q. Do those notes contain any of your opinions in this case?
A. I would have to say I haven't formed an opinion with respect to the questions that have

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been asked me. It's just more along the lines of here's questions that I think are outstanding.

Q. We'll come back to this exhibit.

Aside from the materials in this file are there any other materials upon which you intend to rely for your opinions in this case?

A. Eventually, yes. We're trying to assemble materials now.

Q. So you're, in fact, assembling materials which will be your reliance materials in this case right now?

A. Yes.

Q. Who's doing that?

A. Chu and Celeste.

Q. So these materials here are just your initial observations of the West Virginia case?

A. Right. Just based on the reading of the record to date.

Q. For what purpose are you assembling those other reliance materials if you don't intend to do a formal report in this case?

A. I've been involved in litigations where I give an opinion but I don't write a report. Assuming that I'm assembling those materials such that if there comes a time where the issues that I'm analyzing are appropriate for expert opinion, then I would testify to those or I would write a report, maybe both. I'm just not sure what the procedures are.

Q. When do you intend to be finished with that effort, gathering your reliance materials?

A. The answer I think is contingent on resolution of some of the uncertainties having to do with, say, class definition that will affect the estimate of the size of the class.

Q. I'm going to ask you, Doctor, at such time that you finish that effort, gathering

your reliance materials, I'm going to ask you to notify the defense lawyers in this case so that they can notify us and provide those additional reliance materials to us. Fair enough?

MR. SUFFERN: That's fine with me.

A. Fine.

Q. I think I just asked this, but let me make sure: Aside from these materials do you have anything else that you reviewed in connection with the West Virginia case?

A. No.

Q. Let's go back to Exhibit Number 1. If you could look at Request Number 3, Any reports, articles, books, pamphlets, or other materials which you have relied upon and not cited in your expert report in this case.

Have you brought any materials with you responsive to that request?

A. Everything I have is in the file.

Q. So you have not brought with you any reports, articles, books, pamphlets, or other materials which you have relied upon and which

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were not cited in your expert report?
A. I haven't got an expert report, so this question is kind of moot.

75

Q. Well, you do have a disclosure?
A. Yes. With regard to my disclosure? There's nothing else that I relied upon, so there's nothing else to bring that is responsive to 3.
Q. Aside from these materials there's nothing else that you've relied upon in forming your opinion that you provided in your disclosure. Correct?
MR. SUFFERN: Object to the form of the question.
A. I'm not sure the disclosure has an opinion. It just says the subject about what I'm going to testify. If you get the distinction. I didn't really need to rely on anything for the disclosure. It was just something that the attorneys sent in that said should the need -- as I understand it, should the need arise then Dr. Dunbar will testify on these subjects.
Q. I think we've gone over Number 4, but let me ask you, have you brought with you any documents which are responsive to Request Number 4?
A. I have no such documents in my possession.
Q. You've done no review of any West

76

Virginia medical records or any medical records. Correct?
A. What do you mean by "any records"?
Q. You've done no review of any of the records of the named class members in this case. Correct?
A. That's correct.
Q. Number 5. Bills relating to your consultation in this or any other tobacco case. Have you brought with you any documents responsive to that request?
A. No. I have not.
Q. Why not?
A. I didn't have this in my possession.
Q. Did your defense lawyers ask you to bring your bills for consultation in this matter or any other tobacco case?
A. No.
Q. Do you have such bills?
A. Well, I'm not sure we have an invoice yet for this case. We may or may not. I typically don't handle the administrative details of a case.
With regard to other tobacco cases, I think Falise would qualify, and so we have bills for those someplace.

77

Q. And the Thomas case you referred to earlier would qualify as well, wouldn't it?
A. Yes.
Q. Do you have bills for that case?
A. Yes.
Q. Aside from Falise, Thomas, and this case, have you ever offered any opinion --

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offered opinions in any other tobacco case?
A. Well, I haven't offered an opinion in Thomas, but the answer is no.
Q. Just to make sure, because that was a rotten question, have you ever served as a consultant or testifying expert in any tobacco case aside from Falise, Thomas, and Blankenship?
MR. SUFFERN: Object to the characterization of any of these cases as, quote, tobacco cases, closed quote, but go ahead and answer.
A. I've not served as a consultant in any matters dealing with litigation. Through my parent company I have done some management consulting for tobacco companies. That is not really related to giving expert opinions but was on the subject of risk management.
Q. Your company meaning National

Research Associates?
A. Oh, no. The parent company is Marsh & McLennan.
Q. What kind of work did you do for the tobacco industry?
A. It wasn't the tobacco industry. Marsh & McLennan is an insurance broker firm, and one of the brokers brought me to a meeting with one of the tobacco companies on an issue related to risk management, basically insurance-related.
Q. When was that?
A. Last January.
Q. What kind of an insurance-related matter? What was the issue?
MR. SUFFERN: Objection. Relevancy.
A. I can't really tell you that.
Q. Did you have any follow-up discussions from there?
A. No.
Q. Did you do any additional work on that particular issue?
A. No.
MR. SUFFERN: Objection. It's irrelevant.

Q. You did not.
A. I did not.
Q. Aside from that particular instance and Falise, Blankenship, and Thomas, have you ever served as a consultant or been a testifying expert in any other tobacco case?
A. No, sir.
Q. Request Number 6 reads, "Transcripts of any prior testimony by the witness." Have you brought with you any transcripts of your prior testimony?
A. No.
Q. Do you have such transcripts?
A. I have some. It's very incomplete, though, and many transcripts are also filed under seal or pursuant to confidentiality.
MR. GRUENLOH: Give me just a second to look through some of these things.

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(Recess.)
Q. I've got the folder marked as Exhibit Number 6 to the deposition. There's three documents in here. The first one is the supplemental declaration of Dr. Burns in the Barnes versus American Tobacco case. Have you reviewed that document?

80

A. No.
Q. Do you intend to review that document?
A. Probably.
Q. Have you formed any opinions with respect to the opinions that Dr. Burns offered in the Barnes case?
A. No.
Q. The folder marked as Exhibit Number 7 to your deposition, that's a document -- American Cancer Society cancer follow-up. Tell me how you intend to rely upon that document.
MR. SUFFERN: Object to the hypothetical.
Answer if you can, Doctor.
A. The first thing we'll do is see to what extent we can track what Dr. Burns did in going from the data in here to his conclusions about the size of the class, the determination of that size using backward extrapolation, and then down the road if we have an independent use of the document in estimating the total cost it might serve a role then.
Q. Can you point out for me the type of data that you believe is included in that

81

document that will be relevant to your analysis?
A. Not right now.
Q. Why not?
A. Because I haven't done the analysis yet.
Q. You haven't reviewed that document yet?
A. I've reviewed the document. To an extent I've reviewed the document. What I haven't done is go from this document to the issue of cutoff in terms of pack years that Dr. Burns did.
Q. Can you tell me as you sit here today what data contained in that document you believe will be relevant to the analysis which you intend to do?
A. It's the information that goes into the dose response relationships that Dr. Burns testified about; that is to say, the data on mortality by disease and smoking behavior and age.
Q. Are there specific pages of that document you can point me to that set that data out?
A. The pages that I would point to you -- point out to you would include a lot of pages in here, but it's not certain that I would use all the ones that I would point out to you. That's

82

something that you don't know until you've actually done the analysis.
Q. As we sit here today you cannot

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tell me which data in that document you would rely upon, if any?

MR. SUFFERN: Object to the hypothetical nature of the question. I think that's what Dr. Dunbar might be struggling with. He's already testified the type of -- generally the type of data contained there that he may be interested in depending on the number of contingencies.

A. If I don't rely on the data in here, then Dr. Burns certainly misspoke. In other words, I have to -- As I understand Dr. Burns' testimony, for me to get an understanding of what he did I have to rely on the data in here.

Q. I'm asking you if you can point to me the data contained in that document that you will rely upon today.

A. I can't do that because Dr. Burns never informed anybody of which data he relied on, so we have to do some analysis in order to figure out what he did. In other words, there's no backup for Dr. Burns' calculations.

Q. You haven't done that analysis yet to determine what Dr. Burns did?

A. That's correct. Well, in the level of detail that we're talking about. What I have done is reviewed his depositions. I reviewed the tables that he produced that were exhibits to the depositions, and I reviewed his expert report. To the extent that he either explained what he did or it was self-explanatory what he did, then I understand the analysis that he performed. What I'm telling you is that there are some parts of his analysis that he did not explain or provide support for, and we have not yet determined what he did in those parts of his research.

Q. In order to determine what he did in those parts of his research you have to do an analysis of that work. Correct?

A. Well, there's two possibilities. One is in either deposition or interrogatories we'll find out what he did, or if we don't get that information then we'll have to do an analysis. Yes.

Q. And you haven't done that analysis yet. Correct?

A. We haven't done the analysis of what he

did in those parts of his research that were unexplained and for which he doesn't provide the support.

Q. Okay. Just so we're not vague what parts of research you're talking about, I want you to tell me which parts you're referring to that you believe were vague.

A. Could I have my notes?

Q. Yes.

MR. SUFFERN: To the extent this is a question that calls for a lengthy narrative response, I'll interpose an objection. I'm assuming you want him to generalize?

MR. GRUENLOH: No. I want him to

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tell me which parts of Dr. Burns' analysis he believes Dr. Burns didn't give the basis for his opinion.

MR. SUFFERN: I'll simply interpose an objection to the extent that the questions calls for an open-ended narrative response, but answer it if you can, Doctor.

A. Number 1, in Table 1 he has an estimate of West Virginia cases for new heart attacks per year and new strokes per year. There's no basis for that estimate in the record.

Number 2, he has in his revised report an estimate of about 302,000 West Virginians who smoke five or more cigarettes per day and have at least a five pack history of smoking. There's no basis for that given in his -- In the record you cannot replicate that number from the information Dr. Burns has given us.

Number 3, in a table that he didn't label but that he turned over as Plaintiffs' Exhibit 3, there is a -- three columns of numbers that he claims is the population in the class under Age 75 at Age 40, 45, and 50 -- Let me adjust that a little bit. Age 40, 45-plus, and 50-plus going from Years 1 through Year 15. There's no explanation or support given for the estimates of any of those numbers. There's about 45 numbers.

There is -- There's a contradiction in that table in Plaintiffs' Exhibit 3 with regard to the physical exam. In the table under Assumptions he says that the screening program is once every two years and that 70 percent of the people for the claim -- That is inconsistent with the cost of the program that he

has down below. What he appears to have done is that he has assumed that the frequency of the physical exam is once per year with 50 percent of the people taking advantage of it.

Q. You assume that because of the calculation he did?

A. No. We tried to replicate the calculation using his assumptions. It doesn't work. If you instead plug in this other assumption then it does work.

Q. The other assumption being 50 percent of the people will claim and they'll do it once a year?

A. Once a year.

So we're on the fifth one now. No support or basis is provided for the estimate of administrative costs, which he places at -- arbitrarily at ten percent of the other costs.

Q. Is that an unreasonable estimate?

A. My point is there's no way to know that. He hasn't provided any support or basis for it.

Q. Do you believe that to be an unreasonable estimate?

A. I would have to look into it.

Q. You have no opinion on it right

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now?
A. That's correct.
Six, the current estimate does not exclude smokers covered by West Virginia state insurance.
Seventh, as we were talking about before, his estimates of future costs do not take into account the quit rate. As we mentioned, that's an uncertainty about the class definition.
Q. We talked about the quit rates earlier. You said you had not yet sought to determine the quit rates for West Virginia smokers. Is that correct?
A. Correct.
Q. I think I asked you if you knew whether that was possible, and I think you testified you weren't sure. Isn't that correct?
A. I don't know what the certainty -- whether -- Well, no. Let me drop back. I don't think that's the testimony. I feel I can estimate a quit rate for West Virginia. I think what you were getting to is the -- whether there was West-Virginia-specific data. I think that's an entirely different question. You may be able to estimate a quit rate for West Virginia based on

data that is not West Virginia specific.
Q. You may be able to or you can?
A. I think it's likely that you could.
Q. You haven't done that yet?
A. No.
Q. But you intend to do that?
A. Yes. We intend to get into that.
Q. Tell me Step 1. Tell me how you do that analysis.
A. Analyze the quit rate?
Q. Yes.
A. One way to do that is to find out what the quit rate is among a sample of people or a population that you can either apply or apply with some adjustments to the West Virginia class.
Q. So you would find national data and apply it to West Virginia to determine the quit rates?
A. That's one possibility.
Q. Would that be an appropriate way to do the analysis?
A. It could be.
Q. Do you know whether it is or is not?
A. I'm not sure whether it's the best way at

this point because, again, I haven't done the analysis.
Q. Aside from using national type data to determine West Virginia quit rates, how else could you do it?
A. If you had a sample of people that you could -- and you had quit rates on that sample, if you could adjust the sample to match the demographics of West Virginia, that would be another way to determine a quit rate.

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Q. Is it possible to do that?
A. Yes.
MR. SUFFERN: Objection. I'm sorry. I want to interpose an objection to the form of the question.
A. You have to make some assumptions in order to do that, like you actually have a sample, but it's -- That's a possible way to go.
Q. If you did it that way would you have to impute data?
MR. SUFFERN: Objection. Object to the form of the question.
A. Not necessarily. Imputation usually means you're missing observations.
Q. Are there any other ways that you

could answer that question?
A. Yes. I imagine there are.
Q. Aside from using national data and aside from finding some other state population, is there any other way that you could determine the quit rates of West Virginia smokers?
A. There might well be. I haven't spent a lot of time thinking about it. There could very well be.
Q. Are there any of those methods that you're leaning towards as the method which you will use?
A. No.
Q. No?
A. I have an open mind.
Q. You haven't considered it?
A. I haven't considered what?
Q. Which method you'll use.
A. The question is going to be determined based on data availability. We will consider the methods that are appropriate to the data that are available.
Q. And you haven't checked to see what data is available yet?
A. That's in process.

Q. Who's doing that?
A. Right now it's Chu and Celeste.
Q. When will they be finished with that?
A. We haven't established a deadline yet.
Q. When did they start on it?
A. That would have been started sometime this past week.
Q. Continue with the list.
A. I think we're on the seventh one.
Q. I have Number 8.
A. I'll go with your count.
There's a question as to whether the proposed program will substitute CT scanning for chest X rays and sputum cytology, and if that does that would probably obviate the need for the pilot for CT screening. My understanding from Dr. Burns' last deposition is that he's now in a position to make that recommendation but it's uncertain whether that will, in fact, be done.
Q. Let me ask you a question about

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that before we move on.
That doesn't have any bearing on the quantification of the class itself, does it?
A. No. That goes to the issue of cost, how

92

much -- In order to determine the cost of the program you need the cost per test, and the cost for a CT scanning may be about the same or it may be different from chest X rays and sputum cytology.
Q. Do you intend on offering an opinion in this case on the cost of the proposed monitoring program?
A. Yes.
Let me amend that. There is an issue of whether that opinion will be needed. Could depend on different outcomes of the case, how the case proceeds. So it's not clear that I will give that testimony, but if called upon I can do that.
(Whereupon, Exhibit 17 is marked for identification by the reporter.)
Q. The court reporter is handing you Exhibit 17. Is that a copy of your disclosure in this case?
A. I would have to compare this with the other exhibit that you showed me. It was my understanding that the disclosure is the one that's in my file.
Q. Well, I'll represent to you that's

93

the disclosure that the defendants provided to the plaintiffs in this case. Fair enough?
A. Sure.
Q. Look on that disclosure and point out to me where it says that you offer an opinion regarding the size of the class. I'm sorry. The cost of the proposed monitoring program.
A. It doesn't say that.
Q. Do you intend to offer an opinion in this case on the size of the class?
A. Well, you have to have an opinion on the size of the class in order to get to the cost of the program. So the answer is yes.
Q. Can you look on that disclosure and tell me where it says you intend to offer an opinion on the size of the class?
A. It's in the first sentence of the second paragraph. "In the event that a class is certified, Dr. Dunbar may testify regarding the estimated number of class members likely to seek any relief to which they may be entitled."
Q. Isn't that a different issue than the size of the class?
A. Oh, I see what you're saying. The approach that I've usually taken in the past to

94

estimating the number of people who will make a claim is to first determine the number of people who are eligible to make a claim and then apply to that a propensity to claim. So I had been assuming that I would estimate the size of the class in order to get to the issue of the number

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of people who would make a claim. If I could estimate the number of people who could make a claim without estimating the size of the class then it's conceivable I would do that. That's typically not the way it's been done in the past.

Q. By you?

A. By me or anybody else.

Q. Does it say anywhere on that exhibit that you intend on offering an opinion on the size of the class?

MR. SUFFERN: Other than what he just testified to? Object to the form of the question.

Q. I understand you think it implies it, but does it say it on the exhibit?

A. No. It says I'm going to make an opinion on the number of class members likely to seek any relief to which they may be entitled.

Q. But it doesn't say that you intend

to offer an opinion on the size of the class, does it?

MR. SUFFERN: Objection. Asked and answered.

Q. Take your time and read it, because if I missed it I want to know.

A. The second sentence says, "In connection with his testimony Dr. Dunbar may discuss studies of claiming rates, particularly claiming rates in mass tort litigation such as the Dalkon Shield and silicone breast implant litigation."

What you would apply a claiming rate to would be the class generally.

Q. You think that sentence means that you're going to offer an opinion on the size of the class in this case?

MR. SUFFERN: Object to the form of the question.

A. It means somebody's got to come up with an estimate of the size of the class in order to get from claiming rate to the number of class members that will make a claim.

Q. Well, it's certain, Doctor. One thing that is certain is that somebody will make an estimate of the size of the class, but what I

want to know is if this disclosure says that you're going to do that.

MR. SUFFERN: Objection. Asked and answered.

A. The implications of this to my mind, and I think to any reasonable person, is that I'm going to be making estimates of whatever it takes to get to the estimated number of class members likely to seek any relief to which they may be entitled.

Q. You could have used Dr. Burns' estimate of the size of the class, couldn't you, in order to get there?

A. Yes. I could have, but then it would become my estimate if I checked his estimate and found out that it was right.

Q. Perhaps I'm unreasonable, because I just don't make that assumption.

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Let's continue with your list of the things for which you think Dr. Burns did not provide a basis.
A. What number are you up to?
Q. I was up to Number 9. We just finished the CP scan issue.
(Recess.)
Q. We were up to Number 9.

97

A. So we spoke about the CT scanning versus chest X rays, uncertainty.
Q. That was the last one.
A. Let me just point out that this does not fall under the category of Dr. Burns not having a basis for an opinion. This falls more under the category of, in terms of estimating total costs, it's an uncertainty at this point what the proposal is going to be.
The next one is also an uncertainty, whether the program is going to be supplemented with stress electrocardiograms, and I think there's a little difference in tone between the April and the August deposition. In the August deposition Dr. Burns seemed to be favoring that a little bit more.
Q. That issue --
A. As an uncertainty rather than a probable basis.
Q. That bears upon the cost of the proposed program, not necessarily the quantification of the class. Correct?
A. Yes.
Smoking cessation plans, to my mind there's some uncertainties regarding smoking

98

cessation plans. They're part of the program, but not necessarily to be paid by tobacco. If they are part of the program do they affect class definition through the quit rate function that we talked about before? Not class definition. Class size. Through the quit rate issue.
Q. Let me ask you about that before we move on. Is it your understanding that the monitoring program as it's proposed right now has any formal element of a smoking cessation program?
MR. SUFFERN: Object to the form.
A. I'm not sure of the answer to that. I do think it's a recommendation by Dr. Burns.
Q. You think what's a recommendation of --
A. To include smoking cessation.
Q. You think that he recommends anything aside from physician advice at the time of the checkup?
A. That's the way I read it. Yes. That it's in addition to, that it's more programmatic than physician advice.
Q. Aside from physician advice, what do you think he has recommended be built into the program for the purposes of cessation?

99

A. He hasn't specified that so I don't know, but smoking cessation programs could involve

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counseling, therapy, whatever.
Q. If it's only physician advice at the time the person comes to the monitoring itself, would that cost any more?
A. He seems to think it would because he's talking about whether or not it should be paid for by tobacco. That's an uncertainty in his mind.
Q. You think that he believes that there would be an additional charge for that physician advice?
A. We have to be careful here. We're building assumption on assumption. Whatever it is he believes the smoking cessation program might be, he thinks it costs. Whether that's physician advice or something else, he thinks it costs.
Q. I want you to assume for a moment that aside from physician advice when the person comes -- when the potential class member comes in for his monitoring checkup that there's nothing else, no other formal program relating to cessation. All right? Can you assume that?
A. Yes.
Q. Would that cost any more for that

physician advice?
A. I don't think it should, but that's an uncertainty at this point.
Q. Why?
A. Because we don't know if that's the smoking cessation program. There's nothing in the record to indicate to me that that's the program.
Q. I want you to assume that it is, that that's it.
A. I've done that.
Q. Would that cost any more?
MR. SUFFERN: Objection. Asked and answered. Calls for speculation.
You can answer it.
A. I don't think it should, but I'm not -- I'm just not sure of what the details of the program are.
Q. Continue.
A. The next issue is which smokers are on their -- in the class, and here Dr. Burns claims that there's still discussion going on as to class definition. I don't know what was in his mind when he was talking about this, but it's my understanding from the attorneys that there are issues having to do with smokers who are

asymptomatic with regard to some diseases but symptomatic with regard to others, so that's under the heading of an uncertainty.
Number 12 is the five pack year cutoff. I guess there's a couple of issues there. One is it's not clear to me that when Dr. Burns estimated his 302,000 number that he correctly used the data in coming up with a true five pack year cutoff. That's a subject that we need to address.
Secondly, there is --
Q. I don't mean to be rude and interrupt you, but explain for me what you believe

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to be the uncertainty surrounding that five pack year cut off?
A. With no -- We have no backup for the way he computed that 302,000 number, so we can't go from the population of smokers that he computes to the smokers that fit the criteria for class membership, but there's a second point. Dr. Burns testified that a screening program should have a -- an objective basis. One of the bases is that there's a benefit that is commensurate with the cost. And in this case the benefit is related to risk reduction. This gets to the issue of whether

the five pack year cutoff is a reasonable risk-based criterion for all of the diseases for which there would be medical monitoring.
My understanding is that what Dr. Burns looked at to determine the cutoff was relative risk or excess mortality to smokers from all diseases, but if you use the standard for the cutoff that he proposes and apply it to individual diseases, then for any particular aspect of the program you might come up with a different recommendation with regard to monitoring. For example, it could be that the relative risk for heart disease would, in fact, suggest a five pack year cutoff, but the relative risk for lung cancer might imply a larger -- or a larger dose, so some of these other uncertainties are there.
Q. There's two issues we just discussed: The five pack year threshold calculation Dr. Burns made and the objective basis for the monitoring program, and I want to ask you a couple questions about each one. Okay?
A. Yes.
Q. First of all, do you intend to offer an opinion at the trial of this case as to whether a five pack year threshold of exposure is

the proper cutoff?
A. I don't think so, but one of the things that I'm going to look into is the backward extrapolation and the issue of what you can say about relative risk versus backward extrapolation or the technique that it would take to get to relative risk at lower doses. I am not an expert in -- Let me say it a different way. I've not been asked to opine on screening programs and where the benefits start exceeding cost. I'm pretty sure that's not going to be the subject of my testimony. However, somebody could take perhaps some of the analysis that I've done on risk and feed that into what they may say or want to say, but that's all, right now, kind of speculation. I've not been told that that's what's going to happen.
Q. I think I understand what you're saying, but let me make sure. You're saying you may use statistical data on risks to determine whether the five pack year threshold was a significant cutoff point?
A. Say something about the significance of risk. I wouldn't use the terminology "significant

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cutoff point." What I mean to say is that you

104

can -- He used something that is called backward extrapolation, and I have a few other sections on that later on, and the issue is how do you go from data dealing with dose response in terms of fatalities backward to determine or to measure relative risk. I intend to look into that, and I intend to look into it on a disease-by-disease basis versus looking into it in the aggregate. It's my understanding from his testimony what Dr. Burns did is look at all the diseases in the aggregate in order to come up with his cutoff.

Q. Tell me first of all what data you intend to rely upon to do that analysis.

A. Well, in the first instance I think we'll look at the data he looked at.

Q. Which is what?

A. Well, he looks at CPS -- As I understand it he looks at what he calls Monograph 8, which is CPS 1.

Q. Anything else?

A. I think -- On that particular issue I'm not sure he looks at anything else, but we will look at it whatever data is available.

Q. Do you know what data is available on that particular issue?

105

A. Dose response? Well, I'm sorry. I didn't mean to broaden your question. My understanding is that there is a fair amount of data, epidemiological data, on dose response in cigarette smoking. It could very well be the CPS 1 is the best data. But I -- I'm not certain of that.

Q. As we sit here today do you know what data is available on that issue?

A. Most of the data I've seen and worked with in the past has come from particular samples of like workers or something like that. Data specific to West Virginia is -- as a population as a whole is something I'm not that familiar with right now.

Q. You don't have any specialized training in medicine, do you?

A. I do not.

Q. That analysis that you intend to do of Dr. Burns' five pack year calculation, have you started that yet?

A. No. We're just pulling together the data. We haven't started.

Q. What data are you pulling together?

106

A. Again, we're getting the -- We have Monograph 8, obviously, but we're getting a current population survey and some other data.

Q. Can you tell me, if you're able, the process which you intend to go through for that calculation?

A. I can tell you where we're going to start, which is looking at CPS 1 to determine what can be said for that disease by disease.

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Q. And you think it's important to go disease by disease?
A. Well, that's going to become a matter ultimately for the Court to decide, but I think it could be.
Q. Why?
A. Because particular tests may have no benefit unless you analyze the risks associated with the disease which is being diagnosed.
Q. What do you base that opinion on?
A. Let me say it another way, and maybe this will answer the question.
You could have a situation where people have not smoked enough such that the risk is so low that you wouldn't necessarily design a screening program for them. That dose for

determining whether you're going to have a screening program for them may vary from disease to disease. For one disease it might be five pack years. For another it might be ten pack years.
Q. Do you know that for certain?
A. No, but I don't think Dr. Burns does either because he looked at all diseases in aggregate, as I understand his testimony.
Q. Well, a second ago, the testimony I had the court reporter read back, I thought you testified that it was your opinion that there were different risks for different diseases depending upon different exposures?
MR. SUFFERN: Objection. Mischaracterization. I think he said there may be.
Q. That's what my question is.
A. I'm sorry. Now I'm confused. Your question was?
(Whereupon, the last question is read back by the reporter.)
Q. Is that correct?
A. Sure.
Q. And I want to know what you base your opinion on.

A. Which opinion are you talking about?
Q. That there are different risks for different diseases depending upon different exposures.
A. Well, with regard to the last point, the different exposure causes different risks, that follows from the dose response relationship for tobacco smoking. That there are different dose response relationships depending upon disease follows upon both the data and Dr. Burns' testimony.
Q. Do you know, if you were to use the CPS as your data source and if you wanted to do a categorization, as you're suggesting here by disease type, whether there are enough observations within the CPS data to provide you a statistically significant sample for each disease category?
A. Well, I think you would have statistically significant samples for the diseases that are

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being covered by the program at certain dose response levels. The question is whether you would have -- what kind of observations you would have throughout the entire range of doses within a -- within a disease category, and I'm not sure

109

of the answer to that.

I also do know that there are statistical techniques that are now or have been developed over the last several years to deal with small numbers of observations falls, broadly defined, under the category of nonparametric statistics, and it doesn't look to me like either CPS or Dr. Burns used those techniques.

Q. In the analysis which you intend to do in which you testified that you'll be breaking it out by disease category, do you intend to use those statistical techniques?

MR. SUFFERN: I just want to object to the mischaracterization of what he said he intends to do, but go on, Doctor.

A. It's again -- That depends upon what the data call for.

Q. You don't know what the data call for because you haven't looked at them. Correct?

A. I haven't analyzed the data, if that's what you mean I've "looked at them."

Q. But you haven't analyzed the data?

A. I've not yet analyzed the data. That's correct.

Q. The second part of what I'll refer

110

to as your Point Number 12 dealt with Dr. Burns' opinion that there has to be an objective basis for a monitoring program. Do you remember your testimony on that a few minutes ago?

A. Yes.

Q. Can you explain that point to me again?

A. The issue there is something that we actually talked about a little bit before in the question and answer.

Dr. Burns has specified a set of objective criteria for putting together a monitoring program. I believe that was actually done in the April deposition.

In doing that, one or more of those criteria relate to the issue of how much risk there has to be before you implement a screening and monitoring program. The question to my mind is has he correctly identified the risk, again, disease by disease which, obviously, he hasn't done because he didn't look at it disease by disease. What I meant to say is would you get a different result using these objective criteria if you look at the risks disease by disease. I'm going to also say that I'm probably not going to

111

testify -- In fact, I'm pretty sure I'm not going to testify on the efficacy of monitoring programs. What I'm talking about would just be an input into that type of analysis.

Q. In your opinion how many West

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Virginian smokers would have to be diagnosed early as a result of the medical monitoring program for the program to be worthwhile?

MR. SUFFERN: Objection. He just testified, and correctly, that he's not going to testify about the efficacy of a medical monitoring program.

MR. GRUENLOH: He also testified he would have input into the process, so I want him to answer the question.

A. I have no opinion.

Q. You have no opinion on that whatsoever?

A. I have no opinion on that whatsoever.

Q. If 10,000 West Virginians were diagnosed early with lung cancer as a result of the medical monitoring program, would the program be worthwhile, in your opinion?

MR. SUFFERN: Objection. Beyond the scope of his testimony.

A. It could be, but again I don't have an opinion.

Q. You don't have an opinion on how many West Virginians' lives would have to be saved by a medical monitoring program before it would be worthwhile?

MR. SUFFERN: Objection.

A. Let me say I don't have an expert opinion on that and I'm not here to give my lay opinion.

Q. Do you have any opinion on it?

MR. SUFFERN: On what? Opinion on what? I'm sorry. I don't know what question is pending. Do you have any opinion on what?

Q. Do you remember the question?

A. Yes, I do.

I think that you would have to get into issues of not only diagnosed early, but is there a benefit from the standpoint of lives saved, is there a benefit from learning early about the disease.

There is a discipline that analyzes public programs and regulations which make those difficult decisions; should we invest in AIDS research? Should we invest in other medical issues? Should we invest in education?

Those are all very, very tough decisions that we have to make with the limited resources that we have. That's a professional economist's way of looking at it. As an individual I feel that life is precious and these are -- these are very important issues, and I would like to see lives saved.

Q. You're not going to offer any opinion at trial as to how many West Virginian lives would have to be saved by the medical monitoring program before it's worthwhile?

MR. SUFFERN: Objection. Assumes facts not in evidence.

A. Fortunately, those are decisions I don't have to make.

Q. Why is that fortunate, sir?

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A. I think those are very difficult decisions to make.
Q. We were on Number 12. Are there any other areas which you believe to be uncertainties of Dr. Burns' analysis or things for which he did not provide a basis.
A. Yes. The definition of the class excludes people who are symptomatic. What Dr. Burns did to exclude those people is if you took the annual

114

fatalities and multiplied them by four in each disease to come up with an estimate of approximately 40,000 people and subtract it from his population of smokers to get to a size of class. The problem with that approach is that different diseases have different times between diagnosis and expected death. He used an average of four years for all the diseases. In fact, some diseases have more than four years. At least one has less than four years.
Disease by disease, as I understand it from the deposition, he has probably underestimated the number of people who are currently symptomatic of COPD and would be then subtracted from the class presumably because they're already under care.
Q. How would you do that analysis?
A. I would do methodologically what Dr. Burns has done, but I would do it disease by disease rather than use an aggregate number for all diseases.
Q. Can it be done methodologically?
A. Yes, because we have information on the length of time, the average length of time between diagnosis and the fatality.

115

Q. Do we have that data by disease?
A. We certainly have it for all the cancers, and Dr. Burns gave some information at his deposition about COPD and some of the heart-related diseases.
Q. Tell me the names of those data sets.
A. The --
Q. All of them by disease.
A. Well, I've worked with the cancer data. It comes from -- I think it comes from NCI.
Q. Do you know what the name of the data set is or the survey or the study?
A. I'm sorry. I don't. The cancer statistics are available. I've worked with them in the past.
COPD is one of the diseases that Dr. Burns mentioned in his deposition testimony. His deposition testimony may be sufficient on that disease.
Q. Do you recall what those data sets are as we sit here today?
A. No. He didn't have a data set. He just had an opinion on it.
Q. Do you have a data set that you're

116

aware of?

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A. On COPD?
Q. COPD.
A. We may, but I'm not personally aware of it at this point.
Q. Are you actively seeking out such a data set?
A. We probably will to see if it gives anything different than what Dr. Burns testified to.
Q. Aside from the cancers and from COPD what other data sets are you aware of?
A. For cardiovascular disease Dr. Burns had another opinion, and I would give basically the same answer to that as I did for COPD, which is that he had an opinion on that that may be sufficient. We'll check the opinion against other data. Same thing with regard to heart attack.
He probably overestimated the number of lung cancers. It should be subtracted because his estimate of the average mortality is more like two years rather than four years. And then bladder and oral cancer were probably underestimated. Again, we can get that data from NCI.

Q. You're saying he underestimated the number of people that should be excluded?
A. Yes.
Q. And for lung cancer he overestimated the number that should be excluded?
A. Yes.
Q. If he overestimated that, that would result in a --
A. A true class that's higher than what he estimated.
Q. Any other data sets that you're aware of?
A. I haven't worked with it specifically, but my understanding is they probably go to the Heart Association for data on the cardiovascular-related diseases.
Q. For any of those diseases, sir, can you name for me a single data set? Can you give me the data set by name?
A. That we will be looking at?
Q. Yes.
A. No. I'm afraid not.
Q. Let's just go back a second.
If you overestimate the number of people which should be excluded, that results in

an underestimation of the true class size.
A. That's correct.
Q. If you haven't done an analysis of any of those data sets that you just mentioned to me, how do you know that the survival rates are other than that which Dr. Burns has testified to?
A. Oh, you don't. But he didn't use his own survival rates in order to come up with his estimate. I think maybe you're missing my point.
Q. No. I think I've got your point. What I want to know is, how do you know those are -- the numbers that he gave are incorrect? Do

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you know that?
A. No. And I'm not saying that they are incorrect. That's not my point at all.
Q. I understand your point.
We were on 13. Is there anything else?
A. Remember when we were talking about the need for looking at specific risks of diseases in order to design a monitoring program using Dr. Burns' criteria and I think I mentioned lung disease as an example? I'm going to -- We will look at COPD the same way, break that disease down.

Q. How will you do that?
A. Again, looking at the -- We'll do the same thing there that we did in the case of lung cancer, which was we'll initially take a look at the data set that he analyzed, which is CPS 1, and try to replicate the results.
Q. Why is it necessary to do that analysis?
A. Again, the issue goes into is there a risk here. Should you design the class in such a way that you find a risk of a particular disease before you screen or monitor for that disease. Dr. Burns didn't do that. He looked at all diseases in aggregate, and then he designed a screening and monitoring program for several of the diseases.
(Recess.)
Q. Let's move on to the next point.
A. This is the -- I think we're up to 20 here.
In the Plaintiffs' Exhibit 3 to Dr. Burns' deposition he estimates the total cost of the program. One of the inputs into that estimate is the propensity to claim -- He has two numbers. For some of the tests he uses .7, and

for the rest he uses .5. He claims that .7 is a reasonable guess and that -- And there's no claim at all about .5. .5 is never mentioned anywhere, and we don't see any support or explanation of that number. With regard to what Dr. Burns did, then there's an uncertainty related to .5.
In any event, propensity to claim is something that I intend to analyze.
Q. What's the next point?
A. The next point again goes to class size. The question here is an uncertainty as to who is going to be in the class.
There's questions, as I understand it from reading the deposition testimony, that certain procedures are not covered by existing insurance. That fact motivates in some ways the desirability of the screening program, according to Dr. Burns. If, in the alternative, some of the tests are covered by insurance such as EKGs now and CT lung cancer screening in the future, then there's a question as to whether those people who can get those tests should be part of the class.
Q. Do you intend to do any analysis

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to determine how many people should be excluded from the class on that basis?

121

A. The reason -- I hadn't intended to. The reason I've put this in here is because it's an issue that I would like to see cleared up in order to define the class.

Q. What's the next point?

A. The next point goes to back extrapolation, which we've talked about before. Here it's a little mysterious as to what Dr. Burns did in that he gave three different explanations of what he did. In one explanation he goes from a statistically significant risk of 20 years back to what he considers to be a substantial, but, as I understand it, not statistically significant increase in risk at ten years and says that we go back to five years because there's going to be smoking duration that will get you to the other risk points.

Q. So your point there is you don't know how he did the back extrapolation?

A. Right.

Then he has two other ways that he describes it. The second way he describes it is that he went back to ten years and then he figured that the data he was looking at was deaths, so on average the incidence of disease or the onset of

122

diagnosis would be about five years before, and then his third and final explanation as I use it is he used backward extrapolation as is done in -- basically in toxicology in order to get threshold risks.

Q. Have you attempted to duplicate Dr. Burns' backward extrapolation?

A. Let me say this: There's really not much there that you can duplicate. All he has said is that because of backward extrapolation he was able to use five pack years as the cutoff. The other things that we've been talking about go to that issue.

Q. I understand that, but have you made any attempt to do so? I understand at this point you think it might not be possible, but have you gone in, looked at the explanations he did as to how he did the backward extrapolation and attempted to duplicate it?

A. Not at this time.

Q. Do you intend to do that?

A. We intend to look at his explanations. Again, I'm not sure what there is to duplicate.

He also claims there's a discussion of his back extrapolation in his report

123

and in Monograph Number 8, and I've gone over that, and there is no discussion of his backward extrapolation.

Q. Have you had any discussions with any of the attorneys working on this case about trying to duplicate that backward extrapolation?

A. You mean how we would do it?

Q. How you would do it or whether you

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would do it or any discussions --
A. Whether -- Not on the how, but on the whether, yes, sir.
Q. And did you decide that you would, in fact, do it?
A. We decided I would look at that issue.
Q. When did you have those discussions?
A. Friday.
Q. This Friday? This past Friday?
A. Yes.
The next two issues again are uncertainties rather than anything having to do with Dr. Burns' current opinion. This gets to the issue of apportionment of the program expenses. If the program relates to the damage, then oftentimes damages, in my experience in torts, are

allocated among parties based upon various rules. One rule that is in -- gaining currency over the last several years is to base the allocation on relative risk. This would probably be most important in the area of heart disease where there are competing risks that cause heart disease. Given that, a more sensible allocation rule than 100 percent of the screening and monitoring being funded by tobacco would divide the allocation such that tobacco would only pay a share based on the relative risk contribution of tobacco.
A second allocation could be made at basis of conduct, and that, for example, is being proposed in Falise -- I should say originally in Falise the allocation was going to be based on relative risk, but the theory of the case is switched.
Q. Do you intend to offer an opinion at trial on either one of those potential analyses that you say could be done, either the percentage of risk contribution or the percentage of conduct?
A. I actually haven't talked about this with the attorneys.
Q. In the Blankenship case?
A. Correct. It's just something that caught

my eye that I have some intellectual curiosity about, but it hadn't -- The attorneys here have not said I should even analyze that issue. I haven't talked about it with them one way or another. They haven't said I shouldn't, and they haven't said I should.
Q. Have you begun to pull any data in order to prepare for such an analysis?
A. No.
Q. What you're talking about is a reduction of how much the tobacco industry would have to pay based upon what you believed to be what they're responsible for for one reason or another. Correct?
MR. SUFFERN: Object to the form. I think it mischaracterizes his testimony.
A. It is a discount off of the cost that tobacco should pay. I agree with that. I haven't thought about who should pick up the rest of it,

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but there might be a self-retention feature to allocate access to the monitoring, that sort of thing, but -- Or there might be contributions from other sources or whatever. The issue of responsibility, I guess it's not a term that I would use right now. It may have some legal

126

connotations of which I'm not aware. Also, sometimes you get into situations where there are synergistic effects so the risks separately add up to more than one.

Q. What's an example of a synergistic effect?

A. Between lung cancer and -- I'm sorry. Between smoking and asbestos contribution to lung cancer. That's considered to be synergistic.

Q. In other words, multiplicative.

A. You can have a synergistic effect without it being multiplicative. In fact, in Falise the synergistic effect used by the plaintiff is not multiplicative, but there is a synergistic effect.

Q. Are you sure it's not multiplicative?

A. In Falise? Absolutely certain.

Q. Is it additive?

A. No. It's neither additive nor multiplicative. What they've done is estimated -- Jeffrey Harris has estimated a dose response relationship using a probit model and -- And when you look at the allocation of risks it's neither -- in the context of that model it's neither additive nor multiplicative, but it is

127

synergistic, which is just another way of saying that the sum of the risks independently is less than the joint risks.

Q. Before we get off on that, because I think we could probably go awhile on that issue, let's turn the page.

The first way that you mentioned in which you could reduce the tobacco industry's allotment of how much they would pay for the monitoring program was the percentage of the risk contribution of the tobacco exposure. Correct?

A. I just wouldn't use the word "percentage." I don't think -- It is based on relative risk. I would leave it at that.

Q. What would you have to know in order to do such an analysis?

A. The relative -- Well, you would have to know the relative risk over background of tobacco versus other identifiable factors.

Q. Would that necessarily require you to look at each individual class member to determine what particular risk factors that particular class member may have present in their background?

A. That is in part a legal question and in

128

part a question of design. Let me give you an example where -- where you don't have to look at each individual, and then if need be I can give you an example of where you might.

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In the case of the Manville trust, for all intents and purposes, if you're a smoker you get $6,000 for a lung cancer, and if you're a nonsmoker or you have an identifiable marker showing that asbestos is the cause of the lung cancer you get 9,000. That's all you know. So you don't have what I would call -- Beyond those two switches you don't have much in the way of individual determination. You with me?

Q. I'm with you.

A. On the other hand, somebody could look at each individual and put in a contribution from other factors and say, I'm going to put in a contribution because this person was exposed to PCBs. I'm going to put in a contribution because this person is overweight. I'm going to adjust my contribution based on pack years. Maybe, say, I'll discount two percent for every pack year that the person smokes. That would depend upon individual evaluation. So you can do it either way.

Q. As you sit here today you don't intend to offer an opinion regarding such a reduction based upon relative risk. Correct?

A. I've not been asked to do that. I would have to say that's correct.

Q. Let's look at the second question of allotment that you brought up, and that is a reduction for the percentage of the conduct of the tobacco industry responsible for the exposure to cigarettes. Correct?

A. I just said conduct. I didn't say conduct of the tobacco industry.

Q. Whose conduct are you talking about?

A. Could be either. Again, as you inferred, one way to incorporate conduct is to determine what the effect of the things that the tobacco company did for which they have liability affected initiation rates and cessation rates.

Q. Did you do such an analysis in the Falise case based upon percentage of conduct?

MR. GRUENLOH: Strike that question.

Q. Did you do such an analysis in Falise where you considered the conduct of the

industry and, therefore, did a reduction in the amount of damages?

MR. SUFFERN: Object to the form of the question.

A. Jeffrey Harris did that analysis, and we accepted his results.

Q. Did you comment upon Dr. Harris' results?

A. No.

Q. In order to determine --

A. I wasn't finished with my answer.

Let me say that there's a second fork in conduct, which is again something that I've picked up in the --

Q. I'm sorry. What question are you

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answering?
A. Conduct. Allocation --
Q. I asked you if you had commented upon Dr. Harris' --
A. Go back a prior question.
Q. You're answering a question from two questions before, Doctor?
A. You interrupted me.
Q. Go ahead.
A. The second fork has to do with whether the

individuals themselves contribute to their smoking and, if so, is there a way to design the program such that there's a discount on a population basis because of that. The reason that came to mind, actually, was because of something that Dr. Burns was talking about in his deposition.
Q. In order to do a conduct-based analysis in which you considered the conduct of the tobacco industry it necessarily follows that you would have to do an analysis of that conduct. Isn't that correct, sir?
MR. SUFFERN: Object to the form.
A. You would have to -- I'm not sure I would agree with it. I think what I would agree with is you have to have an estimate somewhere along the line of the effect of the conduct for which they're liable on smoking.
Q. You don't need to know the conduct that you're talking about before you even get to the question?
MR. SUFFERN: Objection. Argumentative. He just said you have to know the effect. It seems pretty clear, but go ahead and answer it if you can, Doctor.
A. As I read Jeffrey Harris' reports and

testimony, he does not look at the effect of the components of tobacco industry conduct in order to estimate the impact of the tobacco industry on smoking.
Q. That's not what I asked you. I asked you if you were going to do an analysis in which you considered the effect of the tobacco industry's conduct, wouldn't you want to know what, in fact, that conduct was? Wouldn't you want to go and look at the documents?
MR. SUFFERN: Object to the form of the question.
A. All I can say is that's possible, but it's not necessarily so.
Q. You don't intend to offer an opinion at the trial of this case regarding the conduct of the tobacco industry, do you?
A. I've not been asked to do that. No.
Q. You haven't reviewed any tobacco industry documents to date, have you, for this case?
A. You mean internal documents?
Q. Yes, sir.
A. Correct.
Q. Is Dr. Burns a good scientist?

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A. He's not in my field, so I can't comment on that. Let me put it this way: In the field of medicine I have no way of knowing whether he's a good scientist. That's just not my area of expertise. In some of the things that he has said which I haven't gone over today he has crossed over from medicine to issues that economists have dealt with, and his opinion on those things is pretty naive.

Q. Is he well respected in his field?

A. I don't know that one way or another.

Q. Do you know how many Surgeon General reports he's been an author of?

A. Why don't you tell me what you think his field is.

Q. What do you think his field is?

A. Well, he's testifying presumably on some issues having to do with medicine. He also gave his opinion in the deposition on some issues having to do with conspiracy and the effect of advertising on smoking behavior. I don't have an opinion with regard to what he says about medicine. When he crosses the line from medicine into areas where I'm an expert in, such as economics, statistics, and claiming behavior, I

have to say he's pretty naive.

Q. Well, what about issues relating to the conspiracy of the tobacco industry? Do you believe that he's naive in those issues?

MR. SUFFERN: Objection. Form.

A. I've not studied the conspiracy of the tobacco industry. I would say that I found his testimony on that to be conclusory, unsupported assertion, and subject to belief and without foundation in the economics that is used to analyze those issues, such as industrial organization and gain theory.

Q. We're not talking about economics right now. I want to know if you have sought to do a review yourself of any of the documents which Dr. Burns relied upon when he concluded that the tobacco industry was engaged in a conspiracy and had lied to the public about the health risks of smoking.

MR. SUFFERN: I'm sorry. Is there a question? You want to know what about that?

Q. Do you know what the question is, sir?

A. Your question is --

MR. SUFFERN: I'm sorry to

interrupt, Dr. Dunbar. I don't know what the question is, and so I -- I would like to determine whether I need to object to the question. I would like it clarified. Could you --

MR. GRUENLOH: Can you read back the question.

(Whereupon, the last question is read back by the reporter.)

MR. SUFFERN: I'm sorry. I do understand the question. I object to the question on the grounds it calls for Dr. Dunbar to

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speculate as there is no testimony that he knows what documents, if any, Dr. Burns relied upon.
A. With all due respect, if you're talking about collusion you are talking about economics.
Q. Have you sought to do a review of the internal tobacco industry documents which Dr. Burns relies upon to reach his opinions about conspiracy and the fact that the tobacco industry has lied and misled the public about the health risks of smoking? Have you sought to do an analysis of those documents?
MR. SUFFERN: Object to the form of the question.
Q. Yes or no will do. Have you

sought to do an analysis of the documents?
A. I have not.
Q. Do you agree that Dr. Burns is better qualified to give an opinion as to the health risks of smoking than you are?
MR. SUFFERN: Object to the form.
A. Not necessarily. No.
Q. But you don't have any medical training. Is that correct?
A. The health risks is not necessarily solely an issue of medical training. It also gets into issues of epidemiology.
Q. Are you an epidemiologist?
A. I have testified on epidemiology, as a matter of fact.
Q. Are you an epidemiologist?
A. I've testified on epidemiology.
Q. That's not my question. I want to know if you're an epidemiologist.
MR. SUFFERN: Object to the form.
A. To the extent epidemiology uses the tools of statistics, I'm an expert.
Q. Are you an epidemiologist?
MR. SUFFERN: Object to the form.
A. I'm an expert on the statistical methods

of epidemiology and the conclusions that would come from the application of statistics to epidemiological problems.
Q. I understand that you believe yourself to be an expert in statistics, and as statistics relate to epidemiology I may agree you're an expert in that, but are you an epidemiologist, sir?
A. Tell me what you mean by an epidemiologist.
Q. Do you know what an epidemiologist is?
A. Yes.
Q. Are you one?
MR. SUFFERN: Objection. Asked and answered. Beyond the scope of his testimony.
A. If I were to define an epidemiologist to be somebody who analyzes how diseases diffuse through a population, that is something I've done, and in that context I would be an epidemiologist. If you say have I taken courses in epidemiology, the answer is no.

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Q. Have you ever taught any courses on epidemiology? I don't want to know about courses you taught in statistics. I want to know

if you taught any courses in epidemiology?
A. Well, I've taught at conferences on epidemiological issues, but I've never taught a course on it.
Q. Do you know how many Surgeon General's reports Dr. Burns has either edited or been an author of?
A. No. I know they went over that in his deposition, and I read his testimony on that.
Q. How many Surgeon General reports did you edit or have any part in the authorship of?
A. None.
Q. Tell me who first contacted you to work on this case.
A. I think it was Mike Suffern.
Q. Can you tell me when he first contacted you?
A. I believe it was around beginning of July sometime.
Q. July of 2000?
A. Yes.
Q. Did he tell you why he was contacting you, you specifically?
A. He's contacting me because of my

experience in estimating claims.
Q. And did you agree to work on this case immediately?
A. No.
Q. Tell me what you did before you agreed to work on the case.
A. I have an existing relationship with Kirkland Ellis, and so I talked to them before I took on the assignment.
Q. What did you talk to them about?
A. Whether they thought it presented a conflict or potential conflict.
Q. What did they tell you?
A. They said it would be all right for me to work on this case.
Q. Was there someone in particular at Kirkland & Ellis that you discussed the case with?
A. Yes.
Q. Who's that person?
A. Ellie Levenstein (phon).
Q. Is that a person that you've worked with before?
A. Yes.
Q. Did you work on tobacco cases with that person?

A. Yes.
Q. Is she a lawyer?
A. It's not a she.
Q. He.
A. He's a lawyer.
Q. What tobacco cases did you work on with him?

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A. Falise.
Q. How much time have you spent working on this case, specifically this case?
A. I don't know.
Q. Any idea?
A. Well, less than a week.
Q. Do you bill for your time?
A. The firm bills for my time.
Q. Is that the National Research Associates?
A. National Economic Research Associates.
Q. How much do they bill for your time?
A. $435 an hour.
Q. Is that how much they billed for your time in Falise?
A. Yes.
Q. And in this case?

A. Yes.
Q. Is that how much they billed for your time in Thomas?
A. Yes.
Q. Is there a different rate for testimony versus just working on a report or something, reviewing documents?
A. No.
Q. Flat rate, 435 an hour?
A. Yes.
Q. You don't have any idea how many hours they billed to date for your work in this case?
A. I'm not sure they billed anything. In other words, I don't think we've gone through an invoicing cycle yet.
Q. Tell me how many meetings you've had relating specifically to this case with anybody.
A. I had a meeting on Friday and then met Michael this morning and we walked over together.
Q. Who was your meeting on Friday with?
A. Michael.
Q. Anybody else?

A. No.
Q. What did you discuss?
A. Michael told me about where the case stood, the trial date, some of the issues in terms of discovery, class certification hasn't been decided, things like that. We went over Dr. Burns' exhibits to both point out and figure out what he did on those and gave me -- He told me something about what he thought scope would be for the work I was doing, and that included analyzing the cost of the program and looking at the backward extrapolation issue.
Q. Either at that meeting or any other meeting that you may have had did Michael or any of the lawyers ask you any questions which they thought might come up at the deposition today?
A. I think he did, actually.

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Q. Do you remember which questions?
A. Actually, not. If I do remember I'll tell you. I just can't remember.
Q. Can you tell me in general what the questions that he asked you were relating to?
MR. SUFFERN: I object to the form of the question.

143

A. I think one of them related to the uptake rate, what I call the propensity of claim.
Q. Anything else?
A. I'm sure there were other questions. I just can't remember what they were.
Q. Have you ever been filmed in preparation for your deposition in any case?
A. Yes.
Q. What case?
A. One case is -- was a case involving Greyhound, the bus company, in the mideighties. Another case involved a damage caused by a flood in New Jersey a few years ago.
Q. Have you ever testified on behalf of the plaintiff in any case?
A. Oh, sure.
Q. How many cases?
A. Lots of cases. I would say in the area of broker/customer disputes, contracts, antitrust, probably half the time.
Q. How much time did you spend working on Exhibit Number 17, your disclosure in this case? How much time did you spend working on that?
A. Well, I didn't write this.

144

Q. Who wrote it?
A. I think Michael wrote it. Michael wrote it when I was in London. He faxed me a copy to look at it. I phoned him back with a few comments on the qualification section.
Q. You wouldn't consider that a report wherein you give your opinions on the case, would you?
A. Would I consider this to be a report?
Q. Yes.
A. No. This is just telling the other side the subject matter of my testimony, I think.
Q. It doesn't include any opinions that you have on the case?
A. It does not include any opinions.
Q. Tell me again when you first saw that.
A. When I was in London. Oh. Wait a minute. This document like this, I first saw it today in this format. I was sent a typewritten document through fax to a hotel I was in when I was visiting London in July. It had a little different format than this.
Q. The document that is inside the folder marked as Exhibit Number 14 is what I'm

145

handing you right now. Is that what you're referring to, sir?
A. Actually, the first time I saw this was on

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August 15th. What I marked up was a little bit different from this, and I don't think I ever saw a final version of it until this was sent to me in August.

Q. So back in July Mr. Suffern sent you a draft disclosure that he had written. You marked it up and sent it back to him?

A. Yes. I only marked up the qualification section. I left the second paragraph intact.

Q. And then that final form you saw for the first time on August 15th?

A. Yes.

Q. Have you reviewed the reports of any other experts aside from Dr. Burns in this case?

A. No.

Q. Do you intend to?

A. I haven't been asked to.

Q. Do you intend to?

A. I would have to see a list of reports to see if any of them were relevant, but as I sit here now I don't know of any report that I'm going

to review, nor do I know all the experts who were involved in the case.

Q. Have you looked at a list of all the experts involved in the case?

A. No.

Q. Have you asked defense counsel for such a list?

A. No.

Q. Aside from the material contained in these folders have you reviewed any other court rulings or transcripts in this case?

A. No.

Q. What else, if anything, have you done to prepare for your deposition today?

A. Nothing.

Q. Have you met with any of the other experts in this case?

A. No.

Q. Have you reviewed any of the other defense expert disclosures?

A. No.

Q. Have you discussed this case with any of the defense experts?

A. No.

Q. Have you seen a list of the other

defense experts listed by the defendants in this case?

A. No.

Q. Are you still an adjunct professor at the University of Columbia Law School?

A. That's -- I have to propose a course, put together a course before I do that. I'm working with a professor now. It's not clear that I will be.

Q. You don't have a law degree, do you?

A. No.

Q. I'm just curious. Under the CV that I have you didn't list your work at Columbia

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University School of Law under your professional experience but instead you listed under honors and professional activities. Is there any reason for that?
A. Not that I can think of.
Q. What's the last course that you taught at Columbia University Law School?
A. Antitrust.
Q. What textbooks did you use?
A. We used the case book of Harvey Goldschmidt (phon) and his co-authors, which I

148

think are Patuski, Moore, and Handler.
Q. What was the course that you taught prior to antitrust?
A. You mean at Fordham?
Q. You've only taught one course at Columbia University School of Law?
A. That's right. Just antitrust.
Q. Let's go to Fordham then. What was the last course you taught at Fordham?
A. Antitrust.
Q. What textbooks did you use for that?
A. We changed the textbook over time. We used Ross and Bork (phon) originally, and I can't remember the name of the supplemental text. We switched Ross for another textbook after a couple of years. I just can't remember the name of the author.
Q. In your last course at Columbia University School of Law how many students did you teach?
A. We had about 90.
Q. How much do you make teaching there?
MR. SUFFERN: Objection.

149

A. It was $4,000.
Q. 4,000 per semester?
A. Yes.
Q. Do you receive a salary from National Economic Research Associates?
A. Yes, I do.
Q. What's your salary?
MR. SUFFERN: Objection.
A. I'm not going to answer that.
Q. You're refusing to answer that question?
A. Yes. I am.
Q. Aside from your income through National Economic Research Associates, teaching at Columbia University School of Law, do you have any other sources of income?
A. Not professional service income. No.
Q. Do you own any stock in tobacco companies?
MR. SUFFERN: Objection.
A. Not consciously. I don't own any stock in individual companies. My retirement plan is invested in various Putnam funds. Whether they own stock in tobacco companies is something I don't know one way or another.

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Q. Are you still the senior vice president of National Economic Research Associates?
A. There is no senior vice president. There's a group of people who are senior vice presidents, and I'm still a senior vice president at National Economic Research.
Q. How many are there?
A. Up until last year there were 12, and we've expanded in -- earlier this year, I believe in February. I don't know the number offhand.
Q. I would like to revisit for a second, when I asked you how much money you make at National Economic Research Associates you told me you weren't going to answer. Do you remember that?
A. I do.
MR. GRUENLOH: Are you instructing your witness not to answer?
MR. SUFFERN: I never made such an instruction. I do object to the question on the grounds that it's irrelevant, and I certainly would be willing to address the issue with the Court if you would like.
MR. GRUENLOH: Okay. But

you're --
MR. SUFFERN: I'm not going to instruct him to answer.
MR. GRUENLOH: You're not going to instruct him not to answer.
MR. SUFFERN: I think the record speaks for itself, counsel.
MR. GRUENLOH: You're not instructing him not to answer the question.
MR. SUFFERN: I think the record is quite clear. I'm not going to answer your question either, counsel.
Q. Are you currently teaching anywhere else?
A. No.
Q. Aside from antitrust what subjects have you taught in the past?
A. I taught a course called Social Control of Industry. That was a course on regulation and antitrust. I taught graduate courses --
Q. I'm sorry. Where was that course?
A. Tufts University. I taught graduate courses in econometrics, statistics, mathematical economics; and undergraduate courses in statistics and business cycles.

Q. I apologize for the broadness of this question, but tell me what National Economic Research is?
A. The best way to answer it is episodically, if you don't mind.
The firm was formed almost 40 years ago by Dr. Alfred Kahn (phon) who at the time was an economics professor at the University of -- at Cornell and had the reputation of probably being the foremost economist on the

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economics of regulation. His textbook was to become the canon in the area for many years. He and his colleagues formed the firm to advise natural gas distributors on wellhead price regulation. The firm kind of grew and prospered and went into a number of different areas after that, including advising the power industry, antitrust, and environmental issues.

I joined the firm in around 1979 with a view to working in the environmental economics area. Since then it's -- It was acquired in 1983 by Marsh & McLennan and some -- And we also opened up -- up some foreign offices, and those two events caused the scope of the firm to expand to doing economic research on public

policy issues such as privatization in foreign countries and, secondly, working on problems that some of Marsh McLennan's clients had, such as forecasting future liabilities for analyzing ways to stabilize cash flow, what I broadly call risk management issues.

Today we're about 400 people and about 13 offices worldwide. Almost all the leadership is economics-based. Most of the leadership are former university professors for one reason or another, like the consulting environment rather than the academic environment.

Q. Do you do any work for National Economic Research Associates aside from litigation-type work where you serve as an expert?

A. Yes.

Q. Can you describe for me what that work is?

A. Yes. The -- Since about 1983 I've been working on the design of -- it might be broadly described as risk management products. One of the initial products was how to hedge short run interest rates. It was mostly of interest to people who had construction jobs and their supplies and whatnot by going into debt with short

run interest, so the interest rate could go up and then they would find out that the economics of the project had changed. So we help them out there.

The forecasting future claims is something that I've done also since 1983 for firms that have, say, product liability exposure or maybe securities litigation exposure, that sort of thing.

Most recently I've been working in the area of enterprise risk management. I should also say prior to that we worked on the design of instruments that would help portfolio managers hedge certain things, but most recently I've been working on something called enterprise risk management at Marsh McLennan, which is putting together an overall kind of approach for management to stabilize their cash flows so that they don't have to lay off people and downturns and stuff like that. And there's a way of doing capital budgeting of laying off risk through various markets, a way of diversifying -- All of

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these are instruments or tools that a firm can use to kind of do that. So I've been developing those types of products. I work on kind of a -- the technical side as opposed to the selling or other

155

side.

Q. Can you tell me what percentage of your time is spent as an expert for the purposes of litigation?

A. Well, it just varies. It's up and down. This summer most of my time has been spent on litigation, but last winter and spring most of my time was spent on the risk management side. It just sort of goes up and down.

Q. When you say most of it was spent this summer, could you quantify that for me? Was it 90 percent? Was it 75 percent?

A. This summer?

Q. Yes.

A. I think this summer was probably 90 percent.

Q. What is it right now?

A. Right now it's probably still in that range.

Q. Tell me, from you on up to the top, what the chain of command is at National Economic Research Associates.

MR. SUFFERN: Objection. It's irrelevant.

A. I report to the president.

156

Q. There's only one person above you?

A. Yes.

Q. Are you a principal? Are you considered a principal?

A. Well, I would be if we were a small corporation, but, in fact, we're wholly owned by Marsh McLennan, so the notion of principal doesn't have that much meaning.

(Recess.)

Q. Does anyone else employed by National Economic Research Associates do work on behalf of the tobacco industry?

A. Yes.

Q. Who?

A. I may not know all the people who were doing that work because some of the early tobacco cases came in through our antitrust department rather than through the mass torts group, so I'm more responsible for mass torts than antitrust. In fact, I think Kip Viscusi works through the antitrust group.

Q. With National Economic Research Associates?

A. Correct.

Q. Do you think he's on the payroll

157

there?

A. No. He's not on the payroll. He's what we call a special consultant, academic who has a relationship with the firm.

The people in the mass torts group who have done work on tobacco-related litigation

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in addition to the ones that I gave you before who were working on this case would include Denise Martin, Paul Hinton -- Drew Claxton and Tom Bornholdt. I think there's one other. We recently added somebody in our Washington office by the name of Walt Surratt who also started working on tobacco-related issues. Those are all people who we would classify as being senior. There are, from time to time, people who we would call research assistants or -- I'm sorry. Research associates. Celeste Lum falls into that category. So they're our research associates who would support some but not all of the senior people.

Q. Were any of the people you mentioned to me aside from Kip Viscusi, do any of them serve as testifying experts?

A. Yes.

Q. Which ones?

A. Well, none of them have testified in tobacco cases, but two of them have testified in other mass torts.

Q. Which two?

A. Lucy Allen and Denise Martin.

Q. Are there any other special consultants like Kip Viscusi that you're aware of that are affiliated with National Economic Research Associates and who have testified in tobacco cases?

A. You mentioned Gene Ericksen earlier. I was unaware that he was working on tobacco litigation. I don't know whether he's testified or not, but he is affiliated -- he is an academic affiliated with NERA.

Q. Same with Kip Viscusi, a special consultant?

A. Yes.

Q. Anybody else that you're aware of?

A. No.

Q. How much time did you spend working on your Falise report?

MR. SUFFERN: Objection.

A. I don't know the answer to that.

Q. Give me a rough estimate.

A. Even a rough estimate would be speculation on my part.

Q. Is it more than a hundred hours?

A. Yes.

Q. Is it more than 500 hours?

A. It could be. Probably in that range.

Q. In the range of 500 hours?

A. Yes. Plus or minus -- I would say it's more than 300 hours, less than a thousand. I would put it in that range.

Q. Would you agree with me that one of your -- what you consider to be one of your primary areas of expertise is estimating future claims?

A. Yes.

Q. Would you also agree with me that the judge in the Falise case disqualified you from

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giving testimony on future claims in that case?
A. Yes. I disagree with your characterization.
MR. SUFFERN: Objection.
Q. Tell me why you disagree with me.
A. Unless you know something that I don't, he said from the bench after I testified -- on July 18th that I can testify on that.

160

Q. It's your opinion that you're going to be able to give a number with respect to the number of future claims in that case?
MR. SUFFERN: Object to the form.
A. Oh. I'm -- Let me say I'm not estimating de novo future claims in Falise, so the judge had no opinion one way or the other about my testimony on future claims in the sense that I'm accepting the plaintiffs' estimate of future claims. What I will testify about is what happens to that estimate when you look at the change in the propensity to claim. That being said, the issue before Falise now, as I understand it, is whether future claims at all is going to be in that case.
Q. Let's take a look at your disclosure in this case, Exhibit Number 17.
As we sit here today you have not done an estimate of the number of potential class members in the West Virginia case, have you?
A. Correct.
Q. When did you first review Dr. Burns' report in this case?
A. About the time that I received it. I just don't know what the date -- that date is, but it's in the cover letter.

161

Q. It's been marked Exhibit Number 4 to the deposition. I don't see a cover letter in there.
A. It's in one of these folders. In fact, there should be two cover letters in the folders. One of them will have Revised Report.
Q. I see. This is Exhibit Number 12 to the deposition. I think the top document is the cover letter you're referring to?
A. Yes.
Q. What's the date on that letter?
A. August 9.
Q. So the first time that you reviewed Dr. Burns' report was sometime after August 9th. Is that correct?
A. Yes.
Q. Do you remember how long after August 9th it was?
A. Probably on August 10.
Q. From going over some of the points contained in your notes today I take it that you disagree with Dr. Burns' estimation of the class size in this case.
MR. SUFFERN: I object to the form.

162

A. Well, let's put it this way: I think that there's some uncertainties in different ways in

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order to come to the class size. Whether his class size is correct or not is yet to be determined.

Q. And we discussed all those uncertainties. Correct?

A. Yes.

Q. Are there any other uncertainties or flaws that you know of as we sit here today in Dr. Burns' estimation of the class size of this case?

A. Nothing else that comes to mind.

Q. Have we talked about them all? They're all in your notes?

MR. SUFFERN: Object to the form.

A. Everything that I found so far. Yes.

Q. How much time did you spend reviewing Dr. Burns' report?

A. Well, the report itself is pretty thin. The -- I hope this isn't unresponsive. Let me just say I reviewed the report in conjunction with Deposition Exhibits 1 through 3, plaintiff deposition exhibits, and also his deposition testimony, and going through all that was probably

20 or 30 hours.

Q. With all due respect, Doctor, you say his report is pretty thin, but it's substantially thicker than the one-page disclosure you provided. Isn't that true?

A. I didn't provide the disclosure.

Q. In fact, you haven't provided anything to date in the way of a disclosure report.

A. I don't have a report with my opinions in it. That's correct.

Q. Let's look at your disclosure.

If you look at the first sentence of the second paragraph, it says, "In the event that a class is certified Dr. Dunbar may testify regarding the estimated number of class members likely to seek any relief to which they may be entitled."

Do you see that sentence?

A. Yes.

Q. Have I read that correctly?

A. Yes.

Q. This might be duplicative because I know we've gone over some of the portions of that analysis today, but I want you to take me

from Step 1 all the way through and tell me how you do that analysis.

A. If I could have my notes.

Q. If you're reading from your notes I would like you to indicate where in those notes you're reading from.

A. The pages are unnumbered, but it's the third page in.

What we would start there with is the estimate of the number of the people in the class. That, in turn, is going to depend upon the definition of the class who would be excluded from the class because of insurance or other reasons,

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and if we look at the numbers in the class going forward, it could depend upon the quit rate also.

Q. Let's stop there. Tell me first of all what data sources you're going to use to get the numbers of the class.

A. Well, the first thing we will do is look at the data sources that Dr. Burns looked at to see if we can replicate his results.

Q. Those data sources are the CPS?

A. Well, we're not exactly sure about that because of the issue of how you go from the number of smokers to the number of smokers who satisfy

the pack year requirement.

Are you with me?

Q. Yes.

I apologize for any duplication, but aside from the CPS do you have any data sources in mind that you intend to use for that analysis?

A. Not right now. No.

Q. Okay. Go on.

A. Then we will look at the propensity to claim, which has also been called the uptake rate. We'll make an estimate of the -- of that propensity.

Q. And what data do you intend to rely upon for that opinion?

A. We have some information from existing claims facilities. One that I mentioned before that is particularly appropriate to lung cancer is the number of -- or the propensity to claim by lung cancer claimants on the Manville trust. We will also look at other medical monitoring programs to see if they have any information which can be applied to this estimate.

Q. Let's be specific here. Which medical monitoring programs are you going to look

at?

A. All the ones we find.

Q. And I think you testified earlier that you're going to do a search to determine all of the medical monitoring programs that are out there?

A. That search is underway. It's going on now.

Q. All of the monitoring programs that you find as a result of that search, you're going to look at those.

A. We're going to look and see what the data availability is and the extent to which they can be applied to estimating the propensity of claim.

Q. Go on. What else?

A. Once you have the -- those two elements, then the --

Q. I don't mean to interrupt you, but were you done telling me the data sources you would use to determine the propensity to make a claim? You said the Manville trust --

A. No. I said --

Q. -- the monitoring program?

A. I'm sorry if I just said the Manville

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Source: http://www.industrydocuments.ucsf.edu/docs/pkxd0001

trust. There are other -- I thought I was using

167

the Manville trust as a -- as an example of the type of data; that is, that there are these other trusts and programs in mass torts from which you can infer propensity to make a claim from them.

Q. Tell me all the ones that you intend to use as we sit here today.

A. Well, I'm not sure I'm going to use them all, but we could look at Dalkon Shield and the MDL for breast implants.

Q. Any others?

A. Right now I think those are the ones that have the best data.

Q. And the data you will look at is how many people were eligible versus how many people actually made claims?

A. Basically that's correct.

Q. Go on.

A. Sometimes it's on a relative basis. In other words -- In Manville the estimate that we have is all relative to the mesothelioma rate, but that gives us the rate we want anyway.

Q. So once you have those two components what's the next step?

A. Usually the people who would make a claim is then computed as the members in the class times

168

the propensity of the claim. Sometimes you will break the class out into different groups because you might think some groups would have a different propensity to claim than other groups. I haven't reached that point where I think that's necessary at this point.

Q. Let me make sure I understand. If you got -- if you -- what you believe to be a 70-percent propensity to make a claim and you've got 100,000 potential class members you would multiply a hundred thousand by .70?

A. Yes.

Q. Is there any further step in the analysis, or is that it?

A. That would be it.

Q. You haven't done that yet, have you?

A. That's correct.

Q. But that's what we've been talking about today that you have your research assistants working on gathering the data for. Is that correct?

A. Well, research assistant is a job title. I have my other colleagues working on that.

Q. I didn't mean to demean anyone.

169

Tell me, if you started that analysis today, how long do you think it would take you?

A. I really couldn't give an off-the-hand answer to that -- off-the-cuff answer.

Q. Can you give me an estimation? Would it take a week, a month?

A. Either one.

Q. Are you telling me it's possible

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you could do it in a month, it's also possible it could take longer?
A. Well, let's put it this way: In a week I could come up with an estimate based on the best evidence available. In a month I might have even better evidence or an estimate for which I would have more precision. I think that's kind of the way research is.
Q. Do you know when Dr. Burns filed his report in this case?
A. I believe the revised report might have been filed in '99, but the tables weren't produced until April.
Q. I think that's incorrect. I think the tables were provided with the original report but, nevertheless, the report, in fact, that I

have here is dated February 3rd, 2000. Is that consistent with your understanding?
A. Okay. I guess someplace in the record I read that he submitted a report in '99. I could be wrong on that.
Q. I think what you're referring to is his initial report was submitted in 1999. He did a revised report which was submitted in February of 2000. Is that consistent with your understanding as well?
A. I'll take it on your representation.
Q. Yet as we sit here today, August 28th, six months after Dr. Burns issued that report, you still haven't done the analysis which you said could take as little as a week. Correct?
MR. SUFFERN: Objection. It's been asked and answered. It's argumentative.
If you can answer it please do.
A. What you say is correct. Once we get a class definition I'll be happy to pursue it.
MR. GRUENLOH: Move to strike as nonresponsive.
Q. Let's look at the sentence of your disclosure, the third sentence. If you could just read that to yourself. The third sentence, I'm

sorry, of the second paragraph. I apologize. It's getting late.
A. Yes.
Q. Have you read that?
A. Yes. I have.
Q. Do you take issue with Dr. Burns' estimate that up to 70 percent of the eligible class members in this case may participate in the proposed medical monitoring program?
A. Well, 70 percent may or may not be the right number. I don't think his approach to coming up with that number is valid.
Q. But as we just discussed, you haven't done an analysis to determine what that number may be. Correct?
A. Not yet.
Q. But you intend to do one?
A. Yes.
Q. Do you intend to memorialize that analysis in the form of a report?

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MR. SUFFERN: Objection. Asked.
A. If asked to I will.
Q. At the beginning of that sentence it says, "Dr. Dunbar also may testify regarding his analysis of any data relied upon by

172

plaintiffs' experts."
Are you referring to any other experts aside from Dr. Burns?
A. I didn't write this, so I don't know who the author is referring to. As I sit here today, the only expert that I analyzed is Dr. Burns. I've not been told that I will respond to any other expert.
Q. I appreciate your difficulty with the question, sir, but you have to understand that this is the only thing that I've been provided with which to depose you prior to coming into the deposition today. So, do you intend to rely upon data used by any of the other plaintiffs' experts aside from Dr. Burns?
A. As I sit here today?
Q. Yes.
A. I've not been asked to, and so I don't intend to.
Q. And the data that you're relying upon in that sentence is the data that Dr. Burns has relied upon which we've already discussed today. Correct?
A. Yes.
Q. Tell me in your opinion why a West

173

Virginian smoker who fit the class definition and is eligible for the proposed medical monitoring program would not avail himself or herself of the program.
MR. SUFFERN: Object to the question to the extent it assumes there has been a class definition, but go ahead and answer it if you can.
A. The observation that we make is that in general only a fraction of people who can make a claim actually do make a claim. That's true in the three mass torts that I mentioned; Dalkon Shield, breast implants, and asbestos.
Q. What are some of the things that could lead a person to not make a claim?
A. The -- There are three things that I think could go into this. One is the what is the perceived value to the claimant of making the claim. Are they going to be getting something of a lot of value out of it.
Q. Okay.
A. Two is the what does the claimant have to give up or go through in order to make a claim. Is there some time-consuming procedure? Are there questions that have to be asked that the plaintiff

174

would prefer not to have to deal with? Those sorts of issues.
Third, to the extent that the claimant feels that the injury is only partially due to the party paying the claim it is less

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likely that an individual will make a claim. Put the other way around, the higher degree of fault that the claimant attributes to the whoever is paying the claim, the more likely a claim may be made.

Q. What about a claimant's perception or knowledge of the risk at which he or she is at due to the exposure? Would that play a role, Doctor?

A. I would think so.

Q. In other words, if you had a West Virginian who didn't think they were particularly at risk because of their cigarette smoking they would be less likely to avail themselves of the benefits of the monitoring program, wouldn't they?

MR. SUFFERN: Objection. Calls for speculation.

A. I haven't seen any studies on that particular issue, but from the standpoint of the economics of people's behavior I think that sounds

right. I would place that under the category of the benefits to the claimant.

Q. The perceived value to the claimant?

A. Right. The value -- What the claimant feels the value is to them.

Q. Is it your opinion that West Virginians fully appreciate and understand the dangers associated with smoking cigarettes?

MR. SUFFERN: Object to the form of the question. Beyond the scope of his testimony.

A. I don't have an opinion on that.

Q. Do you have any idea how much the tobacco industry spends annually on marketing? Do you know what the budget is?

MR. SUFFERN: Objection. Irrelevant.

A. No, I don't.

Q. Is there any reason that you're aware of that would prevent the tobacco industry from using some of the money that they spend on marketing to promote the benefits of such a medical monitoring program?

MR. SUFFERN: Object to the form

of the question.

Q. Is there any reason that you're aware of that would prevent them from doing that, sir?

MR. SUFFERN: Same objection.

A. I don't really have an opinion on that, either.

Q. But is there any reason that you're aware of that would prevent the tobacco industry from doing that? If there's nothing that you're aware of that's fine.

MR. SUFFERN: So was his answer to your question the last time you asked it. I thought that was fine, too. Do you have a new answer to the question?

MR. GRUENLOH: Please limit your

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objections to the form as required by the rules.
Q. And please answer my question, sir.
A. As an economist I just don't have an opinion about that. Your question is not as easy as perhaps you think it is to answer.
Q. I'm not asking for your opinion on it, though. What I'm asking is if there's any reason that you're aware of that would prevent the

177

tobacco industry from spending some of their annual marketing budget, some of the money they have for their annual marketing budget, to promote the benefits of a medical monitoring program in West Virginia.
MR. SUFFERN: I don't know how you can preface that question by saying you're not asking for his opinion. It's beyond the scope of his personal knowledge. The witness is not required to answer questions beyond the scope of his personal knowledge unless they're questions regarding his opinions. He's told you twice he has no opinion on this matter.
A. I can think of one, yes, which is --
Q. I'm asking you what you're aware of.
A. -- which is if the medical monitoring program and the promotion of it, as you claim, do not maximize shareholder wealth, then the shareholders may get together and sue the management and directors with a derivative action.
Q. Is that a serious answer?
A. It is a serious answer.
Q. So shareholder wealth is one factor which would prevent the tobacco industry

178

from spending a portion of their marketing budget promoting the benefits of a medical monitoring program?
MR. SUFFERN: Objection. Mischaracterization. The first two times you asked the question he said he had no opinions, and you keep asking the question. I think that this is speculation. He's already told you he doesn't know. It's speculation. We're not here to deal with speculation.
A. That's not what I said.
Q. I think it is, but the record will speak for itself.
Would you agree with me that if someone was diagnosed with lung cancer it would be better if that person got diagnosed early rather than later?
MR. SUFFERN: Objection. Object to the form. Beyond the scope of his testimony.
A. Well, if it doesn't change the risk then I don't have an opinion on that. If it does change the risk then I think it probably would be better.
Q. What risk are you referring to?
A. Risk of dying.
Q. So if it doesn't change the

179

mortality rates then no, but if it does, yes?

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Source: http://www.industrydocuments.ucsf.edu/docs/pkxd0001

A. I really must protest that is probably about the tenth time today you've mischaracterized my testimony.
Q. I'm trying to understand, sir.
MR. SUFFERN: It's beyond the scope of his opinion.
A. I would like my answer read back then.
(Whereupon, the following is read back by the reporter:
"QUESTION: Would you agree with me that if someone was diagnosed with lung cancer it would be better if that person got diagnosed early rather than later?
"ANSWER: Well, if it doesn't change the risk then I don't have an opinion on that. If it does change the risk then I think it probably would be better.")
Q. If the mortality rate changed then you think that it would -- a medical monitoring program would, in fact, be beneficial. Correct?
MR. SUFFERN: Objection.
A. Could you read back the question that I responded to with them on that last question where he asked for the answer to be read?

180

(Whereupon, the following is read back by the reporter:
"QUESTION: Would you agree with me that if someone was diagnosed with lung cancer it would be better if that person got diagnosed early rather than later?
"ANSWER: Well, if it doesn't change the risk then I don't have an opinion on that. If it does change the risk then I think it probably would be better.")
Q. I thought that it logically followed, Doctor. I wasn't trying to mischaracterize your testimony. If you disagree with me I wish you would tell me that you disagree with me and state your opinion.
MR. SUFFERN: If you have a question would you please ask it? As far as I'm concerned there's no question pending.
MR. GRUENLOH: Right now there's not. You're correct.
Q. Let's look at the second-to-last sentence on your disclosure. That reads, "Dr. Dunbar may also testify in rebuttal to any other fact or expert testimony falling within his areas of expertise."

181

Do you see that, sir, at the bottom of the page?
A. Yes.
Q. As we sit here today are there any other -- Is there any other fact or expert testimony which you intend to rebut aside from that of Dr. Burns, which we have discussed today?
A. I'm sorry. I think my mind wandered in the middle of your question. Would you just ask it again?
Q. Sure. As we sit here today is there any other fact or expert testimony which you

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intend to rebut at trial aside from that of Dr. Burns, which we already discussed today?
A. Well, let's put it this way: What we've discussed today covers all of the areas that I think are going to be involved in my expert testimony as I've been asked to do.
I'm sorry. Was I unresponsive?
Q. I'm just wondering if there was any other fact, witness, or expert witness who had offered testimony which you intend to offer rebuttal to at this time.
A. No one -- If you're talking about another expert, no one that I know.

182

Q. No one aside from Dr. Burns. Correct?
A. Correct.
Q. My question is similar for the last sentence. It says, "Dr. Dunbar may also testify as to other facts and opinions he may possess as an expert concerning other issues that may be raised at trial by witnesses called by the plaintiffs or by co-defendants that fall within Dr. Dunbar's professional expertise."
As we sit here today are there any other facts and opinions which you intend to offer at trial aside from those we've discussed?
A. No.
Q. Do you intend to opine on any other opinions of any other witnesses called by the defendants?
A. No.
Q. Doctor, we skipped around a lot today and I want to make sure I understand, so let me ask you a couple questions before we wrap this up.
Do you intend to offer an opinion about the size of the class in this case?
MR. SUFFERN: Objection. Asked

183

and answered.
A. Yes. To the extent that that's a building block for the rest of my testimony.
Q. Do you intend to offer an opinion regarding the cost of the proposed monitoring program in this case?
MR. SUFFERN: Same objection.
A. Yes. If it's necessary.
Q. Do you have to qualify that?
A. Well, one could envision certain decisions by the judge such that it would not be necessary to offer an opinion on the cost of the program. There's one way to do it, like setting up the trust where you would want to know the cost. There's other ways to do it, like pay as you go where you may not need to know the cost.
Q. I would like to ask you, Doctor, if and when you do any formal analysis such as that we've discussed today either on the size of the class or on the cost of the proposed class or on the potential claim rates that we might see in this class, I would ask you to forward that analysis immediately to defense counsel so it

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could be provided to plaintiffs' counsel. Can you do that for me?

A. I'll certainly follow the rules.

MR. GRUENLOH: I would also reserve the right at such time that such a document is provided to the plaintiffs' counsel to continue my deposition of this expert on that report.

MR. SUFFERN: Are you finished, counsel?

MR. GRUENLOH: Yes.

MR. SUFFERN: Before I open it up for people on the phone for questions, I want to make one statement for the record in response to counsel's request we produce Dr. Dunbar for an additional deposition.

I think as we learned from the course of Dr. Dunbar's deposition today, this is a unique area in which the testimony is impossible to be fully developed at this point due to the fact one of the crucial building blocks is absent from the facts of the case; namely, a workable definition of the class. Under these extraordinary circumstances we would not have any objection to offering Dunbar for additional deposition at such time that the facts have been developed enough to enable him to offer these

expert opinions. However, I just want to put on the record this should by no means be construed as a sort of blanket authority by defense counsel in this case that we will offer our experts for more than one deposition.

With that said, does anybody on the phone have any questions for the witness?

MR. SCHWARTZ: No questions.

MR. ARCHIE: I have no questions.

MR. SUFFERN: I have no questions.

MR. ALIFF: No questions.

(Whereupon, the deposition is concluded at 4:40 p.m.)

(The exhibits are retained by the reporter.)

I N D E X

WITNESS/EXAMINATION	Page
FREDERICK DUNBAR	4
EXAMINATION	
BY MR. GRUENLOH	4
SIGNATURE OF DEPONENT	188

http://legacy.library.ucsf.edu/tid/kum35a00/pdf Source: http://www.industrydocuments.ucsf.edu/docs/pkxd0001

CERTIFICATE OF REPORTER..... 189

REQUESTED INFORMATION INDEX

PAGE	LINE
59	2
73	24
183	17

E X H I B I T S

	Page
EXH. 1 Notice of Deposition	55
EXH. 2 Curriculum Vitae of Frederick Dunbar	56
EXH. 3 Curriculum Vitae of Frederick Dunbar	57
EXH. 4 Folder: "Revised Report, Burns"	64
EXH. 5 Folder: "Burns Dep. Apr. 12, 13"	64
EXH. 6 Folder: "Def's Exhibits 1, 2"	65
EXH. 7 Folder: "Def. Exhibit 3"	65
EXH. 8 Folder: "Def's Exhibits 4-8	65
EXH. 9 Folder: "Pl's Exhibits 1-4"	66
EXH. 10 Folder: "Burns Dep Aug 9"	66
EXH. 11 Folder: "Pleadings on Class Cert"	66
EXH. 12 Folder: "Complaint and Answer"	67
EXH. 13 Folder: "Supplemental Report Burns"	67
EXH. 14 Folder: "Expert Witness Statement"	67
EXH. 15 List of Cases	68
EXH. 16 Notes of F. Dunbar	71
EXH. 17 Disclosure of F. Dunbar	92

SIGNATURE OF DEPONENT

I, the undersigned, FREDERICK DUNBAR, do hereby certify that I have read the foregoing deposition and find it to be a true and accurate transcription of my testimony, with the following corrections, if any:

PAGE	LINE	CHANGE	REASON

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Date

C E R T I F I C A T I O N

I, PATRICIA M. MULLIGAN, a Certified Shorthand Reporter and Notary Public of the State of New Jersey, and a Notary Public of the State of New York, do hereby certify that prior to the commencement of the examination the witness was sworn by me to testify as to the truth, the whole truth, and nothing but the truth.

I do further certify that the foregoing is a true and accurate transcript of the testimony as taken stenographically by and before me at the time, place, and on the date hereinbefore set forth.

I do further certify that I am neither of counsel nor attorney for any party in this action and that I am not interested in the event nor outcome of this litigation.

Notary Public of the State of New Jersey
Certificate No. XI00780

Dated:
My Commission expires October 23, 2000. (N.J.)

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